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Relation of technical assistance to levels of living in underdeveloped areas

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NOTE TO USERS

RELATION OF TECHNICAL ASSISTANCE TO LEVELS OF LIVING IN UNDERDEVELOPED AREAS

by

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I. INTRODUCTION

The material and physical well-being of a large part of the world's people has become a major concern of the smaller but wealthier number. Helping areas characterized as underdeveloped to increase per capita incomes has become a part of United States foreign policy which is now called "total diplomacy". The whole problem of assistance to underdeveloped areas is a very large one, only a particular part of which will be discussed in the following pages.

The problem of the thesis is two-fold:

(1) One part is largely economic in the narrower sense of the word: it emphasizes the relation between productivity and income. The average level of consumption in a given country is closely related to the productiveness of that country's economic system. Part I is concerned with the quantitatively measurable components of the level of living. The problem of measuring these quantities will become a practical one if the United States and other agencies implement their proposals to extend technical and financial assistance to certain areas of the world called economically backward or underdeveloped.

Serving as an example of one kind of measurement is a

description of levels of living in Crete, based on information acquired during a Sample Survey of that Island. The study, undertaken by the Rockefeller Foundation in 1948, was in some respects a very large undertaking. The whole completed report which has been submitted to the Rockefeller Board was long and technical. It included not only a description of conditions in Crete in the late summer of 1948 but also recommendations based on findings and a description of statistical methods employed in sampling the population. Recommendations, based on Survey findings, were to place emphasis on ways the Cretans could help themselves to increase their productivity and thereby improve their living conditions.

After a mass of numerical data on Cretan households, farms, community facilities, government organization, taxation, etc., was collected by a Survey team, the writer was asked to do the levels of living section of the final report. It was only after the problem had been set up, the sample drawn and the data collected that we participated in the study. Participation at this point involved an analysis and presentation of Survey data relating to levels of living. Because the Survey yielded only quantitative data, much time was required for background reading and conferences with members of the Survey team in order that information from the schedules could be supplemented, and better interpreted, with a wider understanding of the Cretan manner of living than the Survey provided. The importance of this we shall discuss in a later chapter.

The finished report on levels of living required a summer's work on the part of the writer, and is largely responsible for the selection of this thesis problem.

Although a large part of the thesis concerns Cretan levels of living in 1948, our purpose is not only to describe. Of greater importance is the discussion of the Crete Survey as an illustration of growing interest in the world's economically backward areas. This Survey is not an isolated example of concern with the well-being of a relatively few people on a small Mediterranean Island. Rather, it is part of a much larger pattern which is taking shape in the world today.

(2) In the second part of the thesis we shall emphasize the importance of giving some attention to the whole pattern of living as well as to the more easily measurable quantities of material consumption. The level of living includes the whole pattern of living at a particular time. As such it includes not only measurable quantities of goods and services used or available for use, but is made up of other components which are not always quantitatively measurable.

Though we in the United States and other Western industrialized countries are much aware of the benefits of high productivity, increased output for some people may not in itself improve living conditions in the way some assistance proposals imply. Not only the <u>size</u> of the income but the use to which it is put deserves attention. Desirable as it is to

eliminate the worst misery and disease in the world, the virtues of increased production must be viewed in proper perspective. This means that one must always regard income only as a means to an end. Most especially is this true for those areas of the world where values are different, and where economic activity, in itself, may have a much lower subjective value than it has in our own society. What may be appropriate means in a highly industrialized country may not be appropriate for an area whose ends are quite different.

If the way to greater material well-being is via increased productivity, how can modern methods in industry and agriculture best be adapted to the needs and wishes of the recipient country? The methods of achieving a particular end (higher incomes, e.g.) may vary. If more acceptable methods are employed, a successful project is more likely. A preliminary study of the whole pattern of living may provide some help in dealing with this kind of problem. Furthermore, such a study provides a base which later can be used in evaluating a program of economic development. Apart from a possible increase in the annual per capita output of goods and services, what other short run and long time results may follow?

The success of projects in areas receiving technical and financial assistance will be closely related to the success with which necessary changes in agricultural and industrial production and distribution can be adapted to a cultural setting different from that of the contributing countries in

which the techniques were developed.

From the contributing nation's point of view, particularly that of the United States, problems which may arise in backward areas during the period of transition to higher levels of production and income may thwart important goals of the contributor(s). For example, during a period of transition certain problems of social disorganization, with Western countries themselves experienced, could prove to be very fertile ground for social criticism, if exploited by Communist agitators. That would defeat one of the most important motives for aiding backward areas, viz., to oppose the spread of Communism in these areas.

Emphasis throughout will be on levels of living in underdeveloped areas, particularly Crete, and some of the changes that may accompany increases in productivity and income. Such concern with the recipients of aid, both technical and financial, omits many important problems which the lending and contributing country must face. The writer in no way implies that such problems as methods of extending technical assistance, priorities of projects, effects of such programs on the level of income and employment in the contributing countries, and many others, are not of great importance. However, they appear to be more widely appreciated and attacked than the type of problems we are concerned with in this thesis.

It is no disparagement of the importance of economic

problems to note that some of the most difficult problems that are likely to occur during long run programs in underdeveloped areas are not entirely economic. Some of these we shall discuss later. Though the writer's approach must be that of an economist, we believe that there should be an attempt to cut across more than one social science field if some problems are to be dealt with properly. Because of the scope of the thesis our method must treat a broad problem only in very general terms.

II. THE QUANTITATIVELY MEASURABLE COMPONENTS OF THE LEVEL OF LIVING

Chapter 1
Underdeveloped Areas and the Crete Survey

The existing content of life, including consumption, is the plane, scale, or level of living. This has been defined as "a reality experienced by an individual or group. It is made up of a complex combination of consumption, working conditions, freedoms and atmosphere and the balance or harmony among them, in relation to needs and felt wants."[1/] This broadly defined level of living includes the whole pattern of living of which economic activity and the consumption of goods and services is only a part. It is with this part of the level of living (i.e., the level of consumption[2/] and the resulting

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1/ Davis, J. S. Standards and Content of Living. American Economic Review. 35:8. 1945.
Davis includes in atmosphere "such assets as the sense of being wanted, of security, of harmony with one's fellows - in home, school, farm, or factory, community, and the larger world - and such liabilities as repellant fears of death, illness, friendlessness, unemployment, war, and the strains incident to broken homes and to heightened uncertainties of many kinds. The hope of progress or lack of it is often a highly important element." p.8.

2/ Level or scale of consumption refers to the sum total of goods and services used or available for use over a period of time - the use of houses, roads, and schools, dental and medical services, quarts of milk, eye-glasses, etc. These may come from various sources: those purchased with money income, provided by the government, given by philanthropies, and those produced in the home by members of the family.

material and physical well-being) that is the chief concern of most proposed technical and financial assistance programs.

An estimated two-thirds of the world's population lives in areas characterized as "economically backward". Productivity is so low that annual per capita incomes average only 41 dollars.[3/] When one considers the inequality of income distribution typical of these areas he suspects that the median income would be a considerably smaller quantity. The figure, of course, is at best only a rough approximation. Levels of consumption are low; daily food intake averages 2000 calories per person as compared to over 3000 in highly developed areas; housing and clothing for many is grossly inadequate; the services of hospitals and medical personnel are inaccessible and/or beyond the financial means of most individuals. Sanitation is poor, illiteracy rates are high. Large numbers suffer from diseases we now call "preventable". Average life expectancy at birth is only about 30 years. Misery, hunger, and disease prevail among the world's unfortunate two-thirds.

The now famous fourth point of President Truman's inaugural address spot-lighted the needs of these large areas of poverty and proposed that the more highly developed areas extend technical assistance and encourage capital investment to enable poor nations to help themselves in improving living conditions.

Although there has been a long history of attempts by

[3/] U. S. Department of State. The Point-four program. Publication 3347, Economic Cooperation Series 23. 1949.

various groups to alleviate misery among people in areas of poverty, the wide-spread concern with economic development in underdeveloped countries was emphasized more forcefully in President Truman's Point-four proposals than it ever had been before. Technical assistance to other countries from U. S. Government agencies is not as new as the Point-four appellation. For example, U. S. technicians have served as consultants in foreign countries through such agencies as the Institute of Inter-American Affairs, Interdepartmental Committee on Scientific and Cultural Cooperation, the Office of Foreign Agricultural Relations and the Export-Import Bank. U. S. influence is felt in the World Bank and other U.N. organizations concerned with economic progress and related problems.[4/] The expansion of business firms abroad has, intentionally or otherwise, affected standards of living in countries where they operate.[5/]

Governments at both the national and international level, private business and non-profit organizations for some time have served as carriers of modern techniques to areas characterized as economically backward. Both the interest in and

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[4/] U.N. Economic and Social Council. Economic Development of Under-Developed Countries. Report of the Secretary-General. Ninth session. E/1345. May 25, 1949.

[5/] For example, the Singer Sewing Machine Co., Westinghouse, Sears Roebuck in Brazil, Standard Oil, and many others. Also of interest in this connection are the development projects, designed to raise levels of living, which private businesses have initiated, financed, or directed; e.g., Overseas Consultants in Iran and Nelson Rockefeller's International Basic Economy and his International Association for Economic and Social Development.

the activity of this kind which recently has received so much publicity almost justifies our speaking of a "Point-four movement." The Crete Survey fits in this pattern.

The purpose of the Crete Survey was to learn certain facts about the Island and to use these facts as the basis of recommendations for "self-help solutions which fit the social pattern, are economically sound and of long duration."[6/] Actually, the data collected on the schedules were, for the most part, data on household consumption, agricultural production and practices, and community facilities. The limitations of this as a measure of the total level of living will be discussed later.

Though the Rockefeller Foundation has long been active in specialized fields of human welfare in various countries, its Survey of Crete is, by intention, broader in scope than its earlier work. It was broader in the sense that emphasis was placed on the source of poverty in an underdeveloped area rather than on the promotion of scattered projects designed to relieve the misery which results from low productivity. Such an approach seems particularly appropriate at the present time.

Working through its five divisions: Medical Science, Public Health, Natural Science, Humanities, and Social Science, the Foundation, since its inception in 1913, has engaged in

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6/ Allbaugh, L. G. Crete Survey Conference. Unpublished Mimeographed paper. Canes, July 19, 1948.

projects both in the United States and abroad. For some time before the Crete Survey, however, the Rockefeller Board was becoming increasingly aware of the desirability of achieving some coordination of work among the Foundation's five divisions. The Board decided to make an "exploratory survey" of Crete to determine whether it was a suitable area for a coordinated program. Representatives of the health and social science divisions were to begin the survey, with the possibility that the natural science division would come in later with assistance.

There were several reasons why Crete was selected for the survey.[7/]

1. Crete was a small area and as an Island was isolated and more easily studied.

2. Crete appeared to be representative of the main problems of many countries in the Mediterrean area: "a) lack of water, b) serious health problems, c) reforestation needs, d) olive oil-cereal-wine-sheep-goat economy, e) lack of power and fuel, f) limited natural resources, g) lack of industrialization."

3. Colonel D. E. Wright, who had worked in Greece with the Public Health division from 1930 until the beginning of World War II, suggested to the Rockefeller Board that a general survey of the Island of Crete would be of help to the

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7/ Ibid, p.3.

Greek Government in assessing problems and designing projects to meet those problems. His recommendation was a factor in the selection of this particular area.

4. There had been less war interference in Crete than in other areas of Greece, and the government showed great interest and a willingness to cooperate. Furthermore, the people seemed to possess a spirit of cooperation and independence which would be conducive to a successful self-help program.

In the next chapter we shall look briefly at other surveys designed to study conditions in underdeveloped areas, preceding recommendations and proposals for economic development.

Chapter 2
Studies Which Assess Present Conditions Preliminary to Development Projects

In this thesis our main interest in the level of living is its relation to technical assistance programs. The aim of such programs is to increase productivity which eventually will increase the average level of consumption and, hence, the material well-being of people living in economically backward areas.

For two reasons we have chosen to discuss the problem of measurement. 1) Before development projects can be designed, an assessment of present conditions must be made in order that

the "designers" have an awareness and an appreciation of the problems with which they are to deal. 2) A preliminary study provides a base which later can be used in evaluating a program of economic development.

An interest in levels of consumption and living, and in methods of studying them, has existed for some time. Many studies of levels of consumption and living have been made in many countries in the world. Some have been very detailed, as when individual families were studied with great care for precision and accuracy. Frederic Le Play's case studies are one of the best examples of this. Of course, the number of families which can be studied by this method is very limited. Less expensive is the method of collecting family accounts or asking families questions about their spending and then analyzing and presenting the results. However, few of these studies provide data which are comparable enough to be used in international comparisons, and in few of these studies can the families included be considered "representative" of all families in their country.[1/] In sharp contrast to studies by members of the Le Play School are economic surveys designed to reveal investment opportunities to business men whose ventures would have a stimulating effect on incomes and hence

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[1/] E.g., see Williams, F. and Zimmerman, C. C. Studies of Family Living in the U.S. and Other Countries. U.S. Dept. of Agr. Misc. Publ. no. 223. 1935.
This abstracts the results of several hundred level of living and consumption studies, few, if any, of which are comparable.

levels of consumption and living. Both the purpose for which the data are gathered and the interest of the persons conducting the study influence the method employed. Of course financial resources and many other factors have an influence, too.

Other methods of measurement are better adapted to the study of underdeveloped areas and yield results which can be better used to make international comparisons. These methods also take less time and are less expensive than the very detailed family living studies. Furthermore, studies preceding development projects must be concerned with more than consumption. Improvements in material and physical well-being is one of the most important aims of such projects. The latter propose to achieve this goal by increasing productivity. Therefore, an assessment of economic resources and potential output must be a major part of such studies. Our interest in such studies is that they usually include information on consumption and well-being. All of them are, at least indirectly, a measure of that material well-being.

Two methods will be discussed, one is called the index method and the other the survey.

1. The index method

There are available for almost all countries certain indicators of (1) their level of economic development, and (2) the level of physical well-being which such development makes possible.

Indexes of economic development include such quantities as the following:

Miles of railroad track per 100,000 population
Telegraph messages received per person per year
Pieces of mail received per capita per year
Average miles of roads over which a motor vehicle could pass per given area.

The above are examples of the kind of index which provides some indication of developments in such important lines as transportation and communication.

Examples of other indexes of economic development include such as:

Percentage of total (or working) population engaged in agriculture
Average capital investment per worker (sometimes available only for agricultural workers)
Educational facilities, the skills and training provided as indicated by such things as the literacy rate, average government expenditure per pupil per year, number of pupils per teacher, etc.

The latter are indirectly an indication of economic development because a country which is very backward in its economic development does not have sufficient resources to use in broad education programs. On the other hand, an uneducated populace tends to be less productive. The two go together.

The best known attempt to get at a per capita total income figure for various countries is that of Colin Clark in his Conditions of Economic Progress. This was a pre-World War II estimate and a very rough approximation. Even for the United States difficulties of arriving at an accurate total income figure are extremely great. For most countries of the

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2/ Clark, Colin. Conditions of Economic Progress. London, Macmillan and Co. 1940.

world necessary data are even more difficult to get and often less accurate when they are available. This is especially true in countries whose population consumes much which does not pass through the market and for which it is impossible to establish a monetary value.

Concerning the level of physical well-being, indexes such as the following may be used:

Crude death rate
Crude birth rate
Infant mortality rate
Morbidity rates, particularly of the most common diseases found in a given area
Percentage of income spent on food.

The above list is by no means exhaustive.[3/] Its purpose is to present a few examples of quantities that may be used to give one some idea of the level of economic development and, indirectly, some measure of the total level of living.

Sometimes certain indexes are used simply because they are available. An example of this is Bennett's ordinal ranking of thirteen countries on the basis of indexes of their levels of living.[4/] He believed this method to be inadequate because information was not available for all items in the family budget.

3/ See, e.g., Bennett, M. K. On Measurement of Relative National Standards of Living. Quarterly Journal of Economics. 50:317-335. 1937.
Hoyt, E. E. Consumption in Our Society. New York, McGraw-Hill Co. 1938.
Learned, E. J. The Determination of Scales of Living in Economically Backward Countries with Special Reference to Haiti. Unpublished M.S. Thesis. Ames, Iowa State College Library. 1945.

4/ Bennett, op cit.

He found, however, as others[5/] have found that a few carefully selected indices may indicate a great deal about the material content of the level of living. There probably is a high correlation among certain indexes and between them and the level of living. For example, there are indexes which express only a consumption fact; e.g., total average consumption of a particular commodity like pounds of sugar, soap, meat, etc., per capita per year. These in no sense purport to measure the total level of consumption directly, but only to give an indication of what the level is. It is preferable, when possible, to use a commodity which has a universal value, at least for countries being compared; and, of course, no single index would be relied upon exclusively.

Indexes of consumption and well-being may be used to compare countries in terms of more or less, relative to one another, but not in terms of a fixed and arbitrary standard. At best they are rough averages and approximations. They tell one nothing about the range of differences within a country; that is to say, how different groups share in money income or various components of real income. This limitation is more serious, however, when we try to compare areas within a country, or countries where differences in levels of living and consumption are very small. They are more useful and meaningful when the differences are great, as they are between the United States and an area characterized as

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[5/] Hagood, M. F. and Ducoff, L. F. What level of Living Indexes Measure. American Sociological Review. 9:78-84. 1944.

economically backward.

Beyond indices of quantities of actual intake are indices portraying the results of consumption in terms of total welfare. This leads to something more than scale or level of consumption, important in intra-national comparisons of different sections or groups, but even more important when determining international differences. Quantitative measures which go beyond what is actually consumed to include the level of physical well-being which results from that consumption, get at more of the level of living. Indices of this type usually are preferable to those indicating consumption facts only. Examples are the crude death rate, infant and maternal mortality, average life expectancy, most frequent diseases and causes of death, nutrition status, literacy, etc. These give a better basis for evaluating consumption than is possible with consumption data only. The latter, however, are often useful for supplementing the former.

2. The survey method

Falling somewhere between the very detailed studies one associates with the Le Play school and the rough approximate averages of a series of indexes, is the survey method. The latter, more than the other methods, lends itself to the needs of assistance programs. The survey has the advantage of presenting an overall picture of physical well-being and general economic development, at the same time getting an assessment of the more critical problems and of important differences among groups within a country.

Furthermore, a survey may be conducted over a relatively short period of time and yet obtain a great deal of relevant information. The survey may be largely statistical but not entirely so. The observations of persons doing the survey will influence the interpretation of the data which are gathered. An observant person with an awareness of social science problems can acquire much valuable information which is not quantitative in nature and hence does not appear as statistical data. In some studies the observations and judgements of experts are the most important part of the study.

Before actual studies are brought into the discussion we must make it clear that none is concerned exclusively with a direct measure of the level of living. Furthermore, it is unlikely that any survey preliminary to a program for economic development will be or could be exclusively that. But in such programs, changes in per capita income and physical well-being will be some measure of the success of the programs.

All of the surveys were designed to make assessments of existing methods of production and distribution and the resulting output. They also include information pertaining to material and physical well-being of the people. All of their designers were very much aware of the relation between productivity and income. All of them, fundamentally, were concerned, at least with certain aspects, of the level of living. All aim to improve well-being by raising output and, thereby, income. Their general neglect of non-material components of the

whole pattern of living in approaching the problem of change in underdeveloped areas will be discussed in Part III.

Several surveys, discussed below, were chosen for discussion because they represent some of the best examples of recent studies which were designed with possibilities for economic development in mind. They are similar in that the aim of persons conducting the survey was to assess present conditions in a particular area for the purpose of making recommendations for development projects and policies which eventually would improve levels of living.

These surveys differ somewhat in approach, emphasis, financing, and the source of their initiating motivation. However, they can be classified as to type of survey into two groups. In one kind a team of experts is sent to a country to observe conditions. They visit different parts of the country, talk with government officials and other individuals. Statistical data may be assembled from government ministries and agencies in the foreign country, from the compilations of international organizations and from U.S. Government agencies. Recommendations may be based in part on the statistical data and, often more important, on the observations and judgements of the visiting team of experts.

In the second type, on the other hand, the population is sampled. On the basis of statistical data gathered from the population characteristics and problems of that population are

analyzed. Recommendations are based largely on information so acquired, though observations of experts and other kinds of data may be used as a supplement.

Examples of the first type of survey: Observation and assessment by experts. The studies cited below serve only as examples of many and are included mainly to indicate the use of and broad interests in this kind of study.

1. U. S. Government Mission to Lebanon.[6/] In response to several requests from Lebanon, the U.S. Government sent an agricultural mission to that country in the Spring of 1946. The Mission, under sponsorship of the Departments of State and Agriculture, was made up of three experts, two from agricultural colleges and one (a rural sociologist and agricultural economist) from the Office of Foreign Agricultural Relations.

The Mission had two objectives which it hoped to accomplish. One aim was to survey the agricultural situation in Lebanon and on the basis of such a survey to make recommendations for long time development projects which would increase output (and hence levels of living) in this predominantly agricultural country. The Mission's second purpose was to share U.S. experience and technical knowledge in agriculture and to offer advice to "the Lebanese Government, private individuals, and various agricultural associations."

The report of this study is particularly interesting

[6/] U.S.D.A. Office of Foreign Agricultural Relations. Report of the U.S.-Lebanon Agricultural Mission. I.A.C. Series, No. 7. Wash., D.C. 1948.

because of the evident awareness of need to consider the whole pattern of living into which agricultural improvement must be fit (and to which we shall refer again in a later section). There is a good summary section on "The Village Community of Lebanon" in which this question is asked, "How do these projects fit into the life of the village community, and to what extent will they result in raising the standard of living of the farming people, as well as of the other segments of the population? This is the yardstick by which Lebanon should measure its agricultural prosperity."[7/]

One of the most important contributions of the Mission was a detailed plan for an Agricultural Experiment Station for Lebanon. They recommended that in addition to the usual agricultural departments of various kinds there should be a Department of Social Sciences. In its own words, "the Mission wishes to emphasize the fact that research in these topics, dealing with the human side of agriculture, is as necessary as research on animals, plants, and soils."[8/]

As to method employed, it was largely that of the "expert's" observation and assessment. This included "an intensive itinery of one month, including field trips to all Provinces, conferences with experts and authorities, and meetings with farmers. . . . The Mission's assignments also included trips

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[7/] Ibid., p.23.

[8/] Ibid., p.39.

and studies in neighboring countries. . . . The Mission's observations in the region as a whole provided it with the wide perspective necessary for any adequate appraisal of agriculture in the several countries visited".[9/]

2. The F.A.O. Mission to Greece.[10/] The Food and Agricultural Organization of the United Nations sent a Mission to Greece in 1946. A team of eight members was sent to study Greek agriculture and to make recommendations to the Greek Government for a program of rehabilitation and longer term development. One of the main objectives, however, was "to indicate in addition the most effective means by which . . . the low standards of life could be raised."[11/]

There was no treatment in the F.A.O. report of what the Lebanon Mission called "socio-economic" factors and which they discussed in a section on the village community. The F.A.O. Mission did recommend, among other things, that a Bureau of Rural Social Science and a Bureau of Home Economics be set up in the Ministry of Agriculture. The former was to include such fields of activity as agricultural economics, rural sociology, rural population studies, village welfare, etc. The Bureau of Home Economics was to include such recommended fields

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[9/] Ibid., p.1.

[10/] Food and Agriculture Organization. Report of the F.A.O. Mission for Greece. Washington, D. C., 1947.

[11/] Ibid., p.xi., from letter of transmittal by the Chairman of the Mission, Mr. Franklin S. Harris.

as foods and nutrition, consumption economics and standards of living, home management, home industries for women, and others.

The method of this mission was similar to the one discussed above, though the Greek study was broader in scope and covered a longer period of time. Realizing that "factors affecting agricultural development of the country cannot be divorced from those affecting the more general industrial development of the country and its economic rehabilitation",[12/] the Mission studied many of these other factors and made recommendations concerning them. Such recommendations were based largely on observations which the Mission made and on information acquired in conference with Greek and UNRRA officials.

3. The Survey of Iran by Overseas Consultants. Twice after World War II the Iranian Government came to the United States for aid in developing its country. The first time a report on the technical aspects of developing Iran was drawn up by a San Francisco firm. On the basis of this report the Iranian Government applied for a loan from the World Bank in June, 1949. The request for $250 million was turned down.

Iran is an economically backward country which had its own government agency to plan and promote economic development. Though plans for a development program for their country had already been drawn up, the Iranians wanted an outsider's advice and appraisal of the soundness of those plans. A group

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12/ Ibid., p.xi.

of United States engineering firms contracted to make a survey which would serve as the basis for a program of development.[13/]

Early in 1949 Overseas Consultants organized a survey team of about forty engineers from different firms as well as agriculturalists and experts in forestry, education, and public health. This team was sent to Iran and by August had completed and submitted to the Iranian Government a 1500 page report. The report was accepted and is to serve as a seven-year plan for the economic development of Iran.

The voluminous report covered such things as industry and agriculture; transportation and communication; social institutions and services such as education, health, housing, water supply, sanitation, and similar matters; natural resources; taxation and government organization. Emphasis throughout was largely on production, with the assumption that this was the basis for improving well-being.

4. Survey of Turkey by the Twentieth Century Fund.[14/] Before the "Point-four era" or the extension of U.S. aid to Turkey in 1947, the Twentieth Century Fund decided to undertake a survey of that country. The initiating motive was quite

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[13/] Overseas Consultants received $600,000 as compensation, though this did not cover all costs. However, some of the cooperating firms expect to get orders for some of the construction work. Other Middle Eastern and South American countries have approached Overseas Consultants with the idea of having similar surveys conducted for them. In the future the price will likely be high enough at least to meet costs. U.S. Engineers in Iran. Fortune. 41:70-73+. February 1950.

[14/] Thornburg, Max W. Turkey: an Economic Appraisal. New-York, Twentieth Century Fund. 1949.

different in this study from that in the Iranian study discussed above, though both were concerned with economic development. In the latter a country sought advice from a group of U.S. businessmen who contracted to do a survey. The Twentieth Century Fund's "study of Turkey and a similar study of Brazil soon to be published," . . . were "designed as pilot projects in an effort to produce the intellectual raw material out of which a more effective U.S. foreign economic policy may be fashioned, not only for the U.S. Government but for private business as well."[15/]

The report of the Turkey study began with a description of the land and the people, presenting a background for a discussion of the Turkish economy and recommendations for its development which made up the rest of the book. The first chapter though brief and only a summary was concerned in part with levels of living; where the people live; something of their historical background, their appearance, and dress; contrasts between city and country; illiteracy rates; number of motor vehicles.

Though there was no direct study of consumption as such, emphasis was placed on the importance of the "standard of living" in any American aid which might follow the completion of the survey.

> It was clearly understood in advance that the only kind of aid to be considered in this study

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15/ Ibid., from the Foreward by Evans Clark, p.vi.

would be that which would raise the standard of living and increase the independence of the Turkish people."[16/]

Recommendations coming out of the study included the following: (1) "A reassessment of the economic ojbectives and the function of government in that development"[17/] so as to attract United States' aid and make the latter practical; also to increase activity by the Turkish Government in public works and to bring available domestic capital "out of hiding"; (2) The opportunities for foreign capital in particular lines of industrial development; (3) the need for early development of small light industries; (4) the need for skilled advisors, including engineers, agriculturists and other technical experts, including those in geology, education, public health and economics.

Max W. Thornburg, research director of the survey, had had many years of experience in the Middle East. He and his associates gathered some of the data for the study by talking with responsible officials. From them and Turkish Government Ministries much of the statistical data were acquired. Observation was an important part of the study. The Twentieth Century Fund team traveled widely examining "mines, steelworks, agriculture and other resources"; then based their recommendations on the observations and conferences plus available statistics.

16/ Ibid., p.v.

17/ Ibid., p.205.

The second type of survey: the sample survey. Another kind of survey is one which samples a population and, largely on the basis of sample data, conclusions are drawn and recommendations made. This does not mean that observations, interviews and existing government statistics are not employed, too, but the basis of the survey is data gathered on schedules or questionnaires from sampled individuals in the population.

There are advantages to this kind of study over those cited above. The objective of the sample survey is to acquire the desired information in the most efficient manner and at the same time to provide a measure of the reliability of the information. Although individual judgement enters when the acquired data are analyzed, a good sampling scheme does provide a more rational method of acquiring and selecting information than observation and judgement even by "experts". That is, one has an idea of the reliability of the information, whereas when the other methods are used nothing can be said concerning the reliability.

This is particularly advantageous when one is interested in getting data which can be expressed in numerical quantities. And, as we have noted before, studies which precede programs of economic development tend to seek that kind of information about the level of living. Although there are other components of the level of living which cannot be expressed as well-defined numerical quantities, there is much to be said for expressing as many that way as possible and then using another

method to supplement the sample data. Observation and assessment by experts is about the only source of some kinds of information. However, when individuals merely observe a given situation for a short period of time and then draw generalizations about the conditions they observe there are the usual dangers of bias together with the lack of any measure of reliability of the information so obtained.

The Rockefeller Foundation's Survey of Crete is probably the best example of this kind of survey to date. Although data already in existence from the Greek government and from the United States and international organizations were assembled and studied, most of the information to appear in the report on conditions in Crete was acquired by sampling the Cretan population. Furthermore, in the Crete Survey more emphasis was placed on levels of living directly than in other studies cited above, and there was more basis for inter-group comparisons of well-being.

The 1940 Greek census indicated that about four-fifths of the total population of Crete lived in rural areas in populated clusters called "communities", which may be made up of one or more villages and the surrounding open country. The rest of the population live in urban areas. The sampling plan used in the Crete Survey called for the selection of 40 communities and 4 municipalities. These and the units within them were drawn in such a way that the sample would include 1/150 of the total population. From the selected communities

and municipalities 617 rural and 148 urban households were sampled. For all these households a household schedule (Schedule A) was taken. Schedules on pregnant women, lactating women, children 1 to 6 and children 7 to 16 were attached to the household schedules when there were household members in one or more of these groups. Sub-samples of 128 of these households also were drawn and two additional schedules put to them. One of these schedules was a 7-day dietary record designed to get a complete record of all food eaten by the sampled households during a one week period. The other was an inventory schedule which got complete inventories of all household goods including furniture and equipment, linens and bedding, tableware, kitchen utensils, clothing of all family members, and infants' wear.

Of the 765 households, 338 in the communities and 8 in the municipalities had farms. For these there was a farm schedule (Schedule B) designed to get much detailed information on agriculture and agricultural methods in Crete. There was a third schedule for which information the mayor or other community officials were interviewed. This included information on population, water supplies, educational and other community facilities, professional personnel, business establishments, public health, important crops grown in the area, use of fertilizer, and social customs.

The development of the sampling plan, direction of the field work, and numerical analysis of the data were carried

out by the Iowa State College Statistical Laboratory. The technical details are discussed in the report which was submitted to the Rockefeller Board. These and data appearing in the thesis were unpublished at the time of this writing.

Inasmuch as the Survey was conducted in accordance with accepted principles of statistical inference, figures appearing in tables and text are presented as estimates for Crete as a whole. Actual sample numbers are omitted as they are of no interest in themselves*.

The next two chapters present an analysis of data most of which appeared on the household schedule. Other sources of information are used but reference is made to these when they appear.

Chapter 3
Levels of Living in Crete.
The Family Income.

Crete is an Island, small (3202 square miles) but strategically located at the "crossroads of three continents". This has made it subject to attack and occupation by many invaders, some of whom imposed unbelievable cruel measures. For example, the Saracens killed off much of the male population and added the women to their harems. The most recent

*That part of the Rockefeller report concerned with the question of validity of the data is not yet available and is still under consideration by the Statistical Laboratory. Hence, these important questions of validity cannot be discussed in this thesis. However, comparisons made in the following discussion were judged statistically significant by the Statistical Laboratory.

example, of course, is the German invasion in which whole villages were burned and the men inhabitants of arms-bearing age killed.

The invaders have left some visible marks and influences in what was bequeathed to Crete. Some of the influence shows itself in race, dress and architecture. Mating with the early invaders had made for some of the differences in appearance. In dress the big baggy-seated trousers of the men hearken back to the Saracen Turks. ". . . Baggy Turkish breeches with the extraordinary pouch in the seat, traditionally designed to catch the infant Mohamet, who on his second coming will be born of man, but which is utilized in the meantime, anyhow by Christian wearers, to carry anything from a primus stove to half a dozen hand grenades. . ."[1/] In architecture, particularly in Canea, the Venetian influence is obvious in fortifications bordering the harbor, the city walls and gates, palace and barracks, "some of them still emblazoned with the Lion of St. Mark."[2/]

Besides these influences from the past, there were also in the urban areas, before the bast destruction in the last conflict, some modern conveniences familiar to those from the industrialized Western world. "The principal towns, Candia,

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1/ Lancaster, Osbert. The Island Greeks. Atlantic Monthly. 182:61. 1948.

2/ Stillwell, Agnes. Crete, Where Sea Kings Reigned. National Geographic 84:547. 1943.

Canea, and Retimo, all on the north coast, possessed modern amenities and facilities; hotels, cinemas, cars, etc. The Mirabella Bay airport was a regular stopping-place of the British Imperial Airways before the war. A quickening tempo on the Island, if gradual and even unwanted, was therefore inevitable."[3/]

Crete is predominantly rural, however, and outside the few urban centers life proceeds at a slower pace and generally within the old pattern. Cretans, like other peasants, tend to cling to the old code, their old manners and customs.[4/] Undoubtedly the war has changed many things, how much it is difficult to estimate. Most of the relevant information appearing in these two sections on Crete was acquired in a single survey and very little regarding change or direction of change can be gleaned from that. Other sources of information are so meager as to be of practically no help in assessing the number and amount of any changes. That there have been changes seems hardly a hazardous guess, however, to anyone at all familiar with Crete's war experience. The occupations by various foreigners, the fighting, guerilla activities, destruction, and losses of many of the educated people; all this has made for a situation whose problems are not entirely those of "economic backwardness". For this reason we must emphasize

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[3/] Gray, Lillian. Crete. Contemporary Review. 164:175. 1943.

[4/] Ibid., p.175.

that some of the conditions described below will reflect the destruction of war and must be so interpreted.

1. The Cretan family

Rural farm as well as rural non-farm families live in village communities. Two-thirds of the Island inhabitants live in communities with a population of less than 250. A family's cultivated land lies in scattered lots in the area surrounding the village. Though the family may have close neighbors in their village, they can be quite isolated from the outside. Some villages are accessible only on mule back or by walking.

At the time of the Survey the Village* household** averaged 4.1 members. In most cases heads of families were men ranging in age from 20 to 95 years with a median age of 45-49 years. Most households were composed of a head (male or female) together with spouse and children and other relatives.

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*Rural families live in populated clusters called "communities", which may be made up of one or more villages and the surrounding open country. Because the word community has a broader meaning than in this rather specialized use, we shall use the word "village" when we discuss these rural population clusters. City or municipality will be used interchangeably in discussions of urban areas.

**For Survey purposes, "household" in most cases meant the family, but when persons not related were living with the family they usually were regarded as members of the household. More than one family could be living in the same room or set of rooms but if they kept separate accounts, had separate heads, "and other distinguishing characteristics" they were regarded as separate households.

Other households had such compositions as a father and his children, the head and his mother, brother and sister, etc. Among all the rural households, 90 per cent lived in single family structures* while 9 per cent lived in structures housing two households.

Fifty-five per cent of rural households had farms. Besides those having farms, 37 per cent of the rural household heads who were non-farmers engaged part of the time in some kind of agricultural activity. Among household heads in 1948, 78 per cent were engaged in primary industries: agriculture, forestry, fishing, or agriculture and some other occupation. Only 9 per cent of households' heads had gone beyond six years of primary school and a fourth of them had not completed one school year.

a. Urban households. In comparison to village households, the average number of inhabitants was a little smaller, 3.9 in cities. Household heads, 76 per cent men and 24 per cent women, ranged in age from 15 to 95 years with a median age of 50 to 54 years. The number of women heads in city households was notably higher than in the Cretan villages.

Only a few city households had farms, but 16 per cent of

*A single structure may house a number of households. This was distinguished in the Survey from the "dwelling unit" which was coexistent with the household. For example, "if it has been determined that two distinct households occupy one room, then within that one room there are two dwelling units". (From the mimeographed pamphlet, Instructions for Interviewers, given to the Greek interviewers before they began their field work for the Survey).

household heads who were not farmers engaged in some kind of agricultural activity. Fewer city household heads, only 13 per cent, relied on agriculture, forestry, and/or fishing for a livelihood. Only 17 per cent of city heads, as compared to 78 per cent of the rural heads, were born in the city where they were residing at the time of the Survey. As in the rural villages, approximately one-fourth had not completed one school year.

In both types of communities, urban and rural, women tend to marry younger than the men do.[5/] Over the years a girl's dowry is assembled in anticipation of her marriage. This shows up on the inventories of households with unmarried daughters who are approaching the usual marrying age of 20 to 25 years. In some homes almost from the time a girl is born, sheets, blankets, table linens, etc., are woven and made up. Other equipment is acquired, too. When such collections are not dissipated during times of necessity, a war, for instance, the accumulations may become very large. During a war or "hard times" some items may be made up into clothing or sold for a small sum to buy food. In the last war even frying pans were sold. Blankets were given to the army. Curtains were used for clothing.

5/ For much of the information on customs of marriage, religion, and others, the writer is indebted to Miss Helen Sdrin, Home Economist, Characopeon School, Athens, Greece. Miss Sdrin visited many of the villages and homes surveyed in Crete in 1948.

In their leisure time men frequent the coffee houses where they talk, play cards, sip black Turkish coffee from their small cups, or just sit. Estimates from the Survey indicate that in rural communities each man spends an average of 9 hours per week in the coffee house, while men in the cities averaged about 12 hours per week.

We know almost nothing about the recreation or leisure time activities of Cretan women. One gets the impression that they work harder than the men do, particularly in the rural communities. Managing a Cretan home frequently requires ability in caring for children, cooking, cleaning, spinning, weaving of blankets and clothing fabrics, sewing, embroidering, and helping with some farming activities in which women are said to have a symbolic significance. Women also do the laundry; carry the water from the community spring, well, or other source; manage the harvesting of crops and the feeding of farm hands. At meals, traditionally, the men are served by the women, who eat afterwards. In noting their duties one is reminded, in a way, of the Biblical description of the "virtuous woman".

There is a variety of newspapers from both Crete and the Greek mainland. Politics, local and national, is a favorite and often exciting topic of conversation. In both villages and cities more men than women read newspapers, but in the cities the percentage of men and women reading newspapers is

twice as high as in the rural villages.

In Crete there is much less variety in clothing than there is in the United States, and high fashion is not nearly so important as it is to us. This is particularly true in the rural areas; in the cities more people wear the conventional Western dress and the few who can afford to do so may be interested in the latest thing from the fashion capitals. But in most cases chief emphasis is placed on durability. Strong homespun fabrics and home constructed garments wear for years, some for a life time.

Women often dress in black with a shawl over their heads. Walking along the dusty roads, they may hold the shawl across the mouth and nose. Young girls wear dresses, skirts, and underclothing much like the typical Western dress. Formerly their traditional costume consisted of "black blouses braided with gold, reddish snoods with gold embroidery, silver necklaces, and strings of gold coins."[6/]

Men, generally, wear boots with riding breeches or the baggy Turkish trousers. In the rural areas one may occasionally be seen dressed in complete native costume, wearing knee-high boots, dark trousers, long red-lined cloaks over a blue-heavily braided vest. The complete outfit is expensive now, probably costing as much as $300.[7/] Around the waist the men

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[6/] Wilson, E. Greek Diary. New Yorker. 21:94. Nov. 17, 1945.

[7/] An estimate reported to the Crete Survey crew in Canea, 1948 by C. Naxakis.

wear an "immense commerbund whose countless folds serve more than a purely decorative purpose as they afford admirable and much needed protection to the liver and kidneys in a climate where the temperature is subject to violent changes in the course of a few hours; and the small black turbans with a pendant, satanic fringe level with the eyebrows all combine to produce an effect of elegant ferocity which is still further enhanced by the immense mustaches lovingly cultivated by all of an age to do so."[8/]

From this rather sketchy view of the Cretan family we may now look more closely at some of the components of their living. In spite of certain limitations we know a good deal about how the Cretans were living in 1948, especially regarding the goods and services they were producing and using.

2. The family income

The "living" produced in Crete necessarily consists of much that makes up a living elsewhere: food, shelter, clothing, leisure time, education, recreation, religion, medical and other services, etc., though some of these are in very small portions.

The total of all goods and services which are used or available for use comes from various sources. Some are purchased with cash income; other are provided through the services

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8/ Wilson, E. op. cit., p.94.

of the housewife and other family members; the direct production of goods in the home; the use value of goods owned, including houses and other equipment; and by community services.

a. Cash income. By U.S. standards most Cretans are poor. Getting even a mean living from a none too fertile soil, with little equipment, and with few modern compensations for the usual risks of nature, is hard work. Many heads of Cretan households are engaged in this occupation on which they depend for cash income.

Sale of farm products, crops, animals or both, was the main source of cash income for a number of Cretan families. Of the 52,000 households whose heads were farmers or farm managers, an estimated 57 per cent in 1948 had annual cash incomes of less than $250 and 95 per cent had less than $750.

As would be expected, handicrafts are practiced in relatively more village than city households. Three-fifths of the rural families practiced spinning and two-fifths weaving. Furniture making, leather working, silver smithing, stone carving, stone sculpturing, and the making of handbags or dolls are also practiced in some homes. When the products are sold in the market they contribute to cash income.

Size of cash income by occupation. Prevailing daily wages for men employed as farm laborers ranged from about $1.00 to $3.50, 95 per cent receiving from $1.50 to $3.00. An average of prevailing wage rates for men residing in both cities and rural villages was $1.88. Women's pay averaged less

than men's for a day's work. Wages for women ranged from $.50 to $2.49 per day with 87 per cent receiving from $1.00 to $2.00, the average wage rate for both cities and villages being $1.11.

Farmer, farm manager, combinations of farmer and some other occupation, farm laborer: these occupations claimed an estimated 77 per cent of household heads in the rural communities and 13 per cent in the cities. Cash incomes were largest in the professional occupations. Table 1 lists various occupations in order of the size of cash income received per year. Eight of the eleven groups received an average of less than $500 per year, with persons in domestic service receiving the lowest yearly average: $20. White collar workers and craftsmen, as a whole, averaged higher cash incomes than laborers (both farm and non-farm).

No household derived from any occupation what ordinarily would be considered a high money income in the United States. There was only one household in the highest income bracket, $2250-2700. Among all rural household heads, with the exception of "operatives and kindred workers", at least 50 per cent or more were earning less than $500 cash per year from their occupation. Excepting professional workers at least 50 per cent, and some cases many more, of those engaged in all occupations in the cities were receiving less than $750 per year. This is more significant when one considers the inflated prices of goods which families had to buy.

Table 1

Average annual cash income by occupation classes, Crete, 1947

Occupation	Cash income* (10,000 dra)
Professional workers	1035
Operatives and kindred workers	694
Proprietors, managers and officials	584
Clerical, sales and kindred workers	439
Craftsmen, foremen, and kindred workers	428
Farmer plus other occupation	400
Service workers (not domestic)	322
Laborers (not farm)	316
Farmers and farm managers	274
Farm laborers	201
Domestic service workers	20

Source: Sample Survey of Crete: Form A, Household

*Throughout these chapters on Cretan levels of living, for the sake of convenience, monetary quantities will be expressed in 10,000 drachmas in the tables but discussed in the text as dollars. One dollar will be considered the equivalent of 10,000 Greek drachmas. The official rate of exchange varied from 5000 to 10,000 during 1947 and from 8000 to 10,000 during 1948. The free market rate was 10,000 to 14,000 during the two years.

A distribution of cash income by households shows relatively more rural households in lower income brackets; almost two-thirds received less than $250 cash annually. About half this percentage (31 per cent) of city families fall in the same class.

Before more comparisons are made, however, the other sources of income should be taken into account. The differences between urban and rural households are reduced when value of home produce is added to cash income.

Table 2

Percentage of households having specified cash incomes, Crete, 1947

Income class (10,000 dra.)	Rural villages Percentage	Cities Percentage	Total Percentage
0 - 249	63	31	56
250 - 499	23	28	24
500 - 749	9	18	11
750 - 999	2	10	4
1000 & over	3	13	5
Total	100	100	100

Source: Sample Survey of Crete: Form A, Household

b. Other sources of income. Annual money income may or may not give an adequate picture of what a household has available for use. Where goods purchased with money income are supplemented by household production, gifts, and community services, total income can exceed money income appreciably. This consideration is particularly applicable in an economy like Crete. Where there are few socially provided services and little specialization of marketing functions and productive services, the family is more self sufficient than it is in more highly specialized economies. For example, when we note money income in Crete, plus the estimated

value of home produce, the importance of the latter becomes evident.*

Tables 3 and 4 illustrate this point.** In rural households home production is relatively more important at all income levels than it is in city households. For income groups receiving less than $750 almost half the cash plus home produced income of village households was produced directly by family members. Such an important contribution to value of goods available for use eliminates the rural-urban contrasts implied when only money income data are used. When averages of cash plus home produce are taken, the differences between households in the rural villages and municipalities are not significant.

Though we can assign it no dollar and cents figure, the services of the housewife in performing her numerous duties must be of considerable value. Other family members, though

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*The Survey got estimates of money income and the value of home produce consumed by the household. This is not all that makes up so-called "real income", but the monetary value of government services, including some food rations and school lunches, some fuel, rental value of owned homes, etc., could not be estimated. The term real income was not used in the Rockefeller report and is not used here because it includes more than the information we got from the Survey. Other sources of income we can only indicate but cannot assign a money value. All sources of income which are included in this discussion include the following: cash income; household production, including the services of the housewife and other family members; use value of goods owned; and community facilities or services.

**"Home produced income" in all tables includes only the estimated annual value of food and clothing produced and used by the household. When this value is added to the cash income, we shall refer to the total as "cash plus home produced income".

Table 3

Value of home produce as a percentage of cash plus home produced income, Crete, 1947

Income class (10,000 dra.)	Rural villages Percentage	Cities Percentage	Total Percentage
0 - 249	47	9	41
250 - 499	49	6	39
500 - 749	46	9	39
750 & over	42	5	32
Total	45	6	36

Source: Sample Survey of Crete: Form A, Household

Table 4

Average cash plus home produced income per household, Crete, 1947

	Villages	Cities	Total
	(10,000 dra.)		
Cash	249	444	306
Value of home produce	204	37	172
Total	453	481	478

Source: Sample Survey of Crete: Form A, Household

not "employed" also may contribute their services to the family's consumables. The importance of household production in cash plus home produced income appears to be associated with the relation between size of income and the number of persons per household. Where home production contributes a large part to total income, a large family may be more of an economic asset than it has become in a country like the United States. In many parts of the United States children contribute little labor toward income production and are no longer the economic asset they once were. In Crete there is a positive relationship between size of total income and the average number of persons per household. It is not unlikely that this may be explained, in part, by the larger number of persons whose labor contributes to cash income and/or home production.

The percentage of household heads which were women was higher in the lower income groups, decreasing as income increased. The lower wages which women receive is probably a part, though by no means all, of the explanation of this relationship between size of income and sex of household head; there are a smaller number of household members to contribute to income, too.

There were few rural households not engaging in any agricultural activity as a means of supplementing family income, though relatively fewer city households engaged in agriculture. Besides 54 per cent of the village households having farms, 37 per cent of them were classified as sub-farm households.

Table 5

Average number of persons per household and per cent of households having male and female heads, classified by income (cash plus value of home produce)

Income class (10,000 dra)	Villages				Cities			
	% of house-holds	Ave. no. of persons per household	% having Male head	% having Female head	% of house-holds	Ave. no. of persons per household	% having Male head	% having Female head
0 - 249	29	3.2	71	29	20	3.0	55	45
250 - 499	24	4.2	82	18	26	3.8	70	30
500 - 749	23	4.6	88	12	22	4.2	94	6
750 & over	24	5.8	95	5	32	4.9	92	8
Total	100				100			

Source: Sample Survey of Crete: Form A, Household

These sub-farms engaged in some form of agricultural activity, 16 per cent of them raising crops only, 13 per cent animals only, and 71 per cent both crops and animals. On a per household basis, animals slaughtered annually for home use were not numerous enough to contribute much to a family's yearly meat supply.

Fewer city households carried on agricultural activity. Besides the few city households classified as farms, about 25 per cent of the city households also engaged in agriculture as sub-farms of which 26 per cent raised only crops, 45 per cent only animals, and 29 per cent a combination of crops and animals. More goats and poultry than other animals were owned by the city households. As in the villages, more rabbits than other meat animals were slaughtered per household for home use though, again, not in large numbers.

Processing of food is another form of household production; it took place in relatively more village than city households. The Survey indicates that this was true in the production of hondros, tsikoudia*, butter, cheese; the canning and bottling of food; the preservation of meat; and the drying of various fruits. Over half the rural households dried fruits and made hondros and tsikoudia. Raisins and figs were the fruits most frequently dried in both city and village households

*Hondros is prepared from wheat and milk (sweet or sour) salted and cooked together, then spread out in thin sheets and dried in the sun. Tsikoudia is a native alcoholic beverage.

which engaged in this kind of production.

Many of the food products prepared at home were kept for home use only. However, some families also marketed all or part of the produce. In most cases food processing supplemented family income through direct production of food the family uses; in others the sale of products added to the cash income.

Besides the important sources of cash and household production, the services from an owned home and durable goods, plus certain community services also contribute to the family income.

The use value of owned goods. In 1948 about 89 per cent of the rural households owned their own homes and only 3 per cent rented. The remainder lived in rent free houses belonging to relatives or unsettled estates. In the cities 62 per cent owned their homes but almost a third rented houses. For these home-owning households, the annual use value of a house is an important part of their income. Though no monetary estimates are available for rental value of owned homes, the latter should be listed as one source of income to Cretan households.

Cretan households are not equipped with the appliances and conveniences of a house in a modern urban center. Most families cook their meals and heat their houses with fireplaces or braziers. Very few houses, especially in the rural communities, have electricity or running water.

Household utensils and furnishings, including in some cases large supplies of linen and bedding, in addition to their houses, make up most of the goods owned and used by Cretan families.

Though no precise inter-household comparisons can be made on the basis of monetary value of goods owned, if a village household owned an average number of every household item listed in the household inventory schedule, the value probably would not exceed 450 dollars. The prices on which this estimate was based were suggested by Miss Sdrin* and were only approximations. Obviously, differences in quality were not taken into account. Effects of the war are evident in the inventories of families who contributed blankets and other supplies to the war effort, or used up items which could not be replaced because of wartime scarcities. Other families were forced to sell some items to meet family emergencies. Although inventories were taken three years after the close of the war, many families probably were under par in terms of prewar amounts of some household items.

Some households reported what seem like unusually large accumulations of certain items which were earmarked for a daughter's dowry, while other families who recently had a daughter marry had on hand rather small supplies of some articles. On some schedules interviewers distinguished between

*Miss Helen Sdrin, who visited many of the villages and homes surveyed in Crete, is Home Economist at the Characopeon School, Athens, Greece.

goods in use and goods saved for dowries. Others did not make the distinction. Obviously, goods not in use were not a part of current income.

Following, on pages 53 through 57, is a series of tables listing all items for which inventories were taken, except clothing and infants' wear. The latter will be discussed in the next section. Classes of inventory items discussed in this section include (1) household furniture, (2) linen and bedding, (3) tableware, (4) kitchen utensils.

It was hoped that all of these could be analyzed so that income and urban-rural comparisons could be made. For two reasons such an analysis was not made for all items. (1) Averages and percentages did not seem to mean much when there were only a few families, as was often the case in the cities. For example, there were only 25 city households in the total subsample of 128 and when this number was further broken down into income classes there were too few in each class to permit valid generalizations and comparisons. (2) The suggestive information which one would get as a result of such an analysis did not justify the required time and expense for computation.

For these reasons only one group of items was selected to serve as an example of a more complete analysis. Furthermore, differences observed in the selected group, viz., durable goods, might be more significant than the less durable, less

expensive goods. Hence, the selection of household furniture, including radios, sewing machines, irons, etc., which follows.

We must emphasize that we shall not note income and residence differences with the idea of applying a generalization to Crete as a whole. Complete inventories for even the small sample are interesting, however, In spite of certain limitations regarding conclusions that may be drawn from them, inventory summaries have been included because average number of items owned by all households is of some significance and interest, and because it has been unusual to get household inventories in this kind of study.

It is especially interesting to note the almost complete lack of relation between income and the percentage of households having a particular article. For example, in several cases the lowest and highest income groups have a similar percentage of households with a given item, while the two middle groups show a variation. One exception to this appears among village households having buffets and sewing machines. For these two items there appears to be a tendency for the percentage of households having buffets and sewing machines to increase with increasing incomes. However, this does not hold for buffets in city households. For sewing machines one cannot say; the highest income group did not have any. A larger sample, of course, might have given different results.

Another interesting observation to be made from Table 6

Table 6

Per cent of households having specified articles of linen and bedding, average number per household, Crete, 1948

	Villages		Cities	
	Per cent of total households having	Average per household	Per cent of total households having	Average per household
Mattresses	86.4	2.3	100.0	2.8
Mattress cover	1.0	1.0	8.0	1.5
Sheets	80.6	6.2	100.0	6.4
Pillows	94.2	4.9	100.0	4.8
Pillow cases	78.6	6.6	100.0	9.2
Quilts	59.2	1.4	80.0	1.4
Blankets	100.0	5.6	100.0	4.7
Bed covers	32.0	1.7	36.0	1.7
Mosquito-netting	6.8	1.6	28.0	1.6
Table cloths	85.4	3.2	96.0	3.2
Table napkins	88.3	12.3	92.0	1.5
Fancy napkins	13.6	5.5	36.0	7.3
Bath towels	1.0	2.0	8.0	2.5
Hand towels	38.8	3.2	40.0	3.3
Face towels	96.1	5.7	100.0	4.5

Source: Sample Survey of Crete: Form 3, Inventory

is the absence of any striking difference among households in the average number of individual items they own. This generalization holds for both villages and cities.

The greatest differences between the percentage of urban and rural households having certain items of linen and bedding occurred in mattress covers, quilts, mosquito netting, fancy napkins and bath towels. The percentage of city households owning these items exceeded the percentage of rural households which had them. A similar comment cannot be regarding average

number of articles per household having the article. With the exception of table napkins, for which village households appeared to have a larger average supply, there were no outstanding differences.

From inventory estimates, it would appear that a large proportion of Cretan households have mattresses, bedding and other linens. Some of these items appear, from the averages, to exist in fairly adequate supply. An important exception to this is the rather small percentage of households having mosquito netting which is a practical necessity in a malarial area.

Visitors to Crete report that the table ware and utensils often are of an inexpensive and poor quality. Much of this can be attributed to the war emergency during which time there was destruction or sale by families of better quality items. Only cheap quality merchandise was available for replacements. A "guesstimate" based on prices suggested by Miss Sdrin of the average value of table ware inventory did not exceed $20.

Proportionately more city households had tin cups, ladles, bread baskets, spread knives and serving spoons; relatively more village households had trays and table knives. However, the fact that differences are greatest in these items appears unimportant and of little or no basis for making comparisons.

In general, municipal households appear to be no better supplied with table ware than the rural households and vice

Table 7

Per cent of total households having specified articles of table ware and average per household having, Crete, 1948

Article	Villages		Cities	
	Per cent of total households having	Average per household	Per cent of total households having	Average per household
Soup plates	91	5.3	96	5.0
Plates	88	5.3	100	5.3
Salad plates	13	3.2	24	1.5
Dessert plates	20	3.3	16	3.5
Platters	31	1.6	24	1.8
Soup tureens	23	1.1	28	1.3
Tea cups	88	3.2	88	4.1
Tea saucers	37	3.4	44	5.3
Coffee cups	75	4.6	88	4.8
Coffee saucers	55	5.1	64	4.6
Jam saucers	39	5.4	56	5.3
Jam bowls	34	1.4	60	1.5
Salt & pepper shakers	58	1.0	60	1.1
Sugar bowl	10	1.0	16	1.0
Milk pitcher	3	1.3	4	1.0
Water pitcher	38	1.1	32	1.0
Wine decanter	34	1.0	28	1.0
Water glasses	86	4.2	100	4.0
Wine glasses	93	4.6	80	5.3
Vinegar & oil bottle	3	1.3	4	1.0
Ouzo glasses	85	4.7	80	6.7
Tin cups	26	1.1	60	1.3
Ladles	18	1.7	20	2.2
Trays	67	1.2	76	1.2
Bread basket	12	1.1	28	1.1
Table knives	90	3.2	100	4.6
Spread knives	22	1.3	24	1.0
Paring knives	18	2.2	24	2.0
Tea spoons	80	3.9	92	3.8
Soup spoons	99	7.5	96	6.8
Serving spoons	19	1.6	16	1.8
Dessert forks	18	4.6	32	5.6
Table forks	97	8.6	100	7.7

Source: Sample Survey of Crete: Form 3, Inventory

versa. Neither are there striking differences in the percentage of households having particular items.

The next table presents the kitchen utensils which were inventoried, the percentage of total households having each item and average number per household having.

More rural households had equipment like hand grain mills, spits, rolling boards, bread baking shovels, and covered ovens; while a larger percentage of city households had such items as garbage pans, meat and coffee grinders, baking pans, water barrels and salt boxes. Among households having particular kitchen utensils, the average number per household in both villages and cities was about the same.

Community facilities and services. Some of the services used by households or available for their use are what we shall call community services, defined broadly enough to include the more important ones whether they are privately or publicly provided. Services we shall discuss in this section are the following: business establishments, government provided food, sanitary facilities, roads and other means of communication, various facilities for health and medical care, and education.

1. Business establishments. The kind of goods used by households depends in part upon the availability of those goods and whether the consumer buyer knows about them and is interested in them. Businessmen produce and make available most

Table 8

Percentage of households having specified kitchen utensils and average per household, Crete, 1948

Article	Villages		Cities	
	Per cent of total households having	Average per household	Per cent of total households having	Average per household
Boiling pans - metal	63.1	1.6	76.0	1.9
Boiling pans - earthenware	73.8	1.8	72.0	1.7
Baking pans	27.2	1.3	64.0	1.4
Frying pans	95.1	1.2	96.0	1.2
Cookie sheets	3.9	2.0	-	-
Dish pans	44.7	1.8	60.0	1.5
Strainers	44.7	1.2	84.0	1.4
Sifters	82.5	1.8	68.0	1.2
Coffee pots	77.7	1.6	92.0	2.0
Tea kettles	10.7	1.1	36.0	1.2
Egg whippers	1.0	1.0	4.0	1.0
Coffee roasters	4.9	1.0	8.0	1.0
Coffee grinders	4.9	1.0	24.0	1.0
Pepper grinders	1.0	1.0	-	-
Meat grinders	3.9	1.0	16.0	1.0
Hand grain mills	36.9	1.0	16.0	1.0
Spits	27.2	1.1	12.0	1.0
Boiling racks	8.7	1.0	32.0	1.1
Mortar and peatles	65.0	1.0	84.0	1.0
Chopping bowls - wooden	12.6	1.0	20.0	1.0
Mixing bowls	35.9	1.6	44.0	1.4
Rolling pins	66.0	1.0	72.0	1.1
Rolling board	67.0	1.0	48.0	1.0
Bread tubs	64.1	1.0	64.0	1.0
Bread pans	12.6	1.0	24.0	1.0
Bread baking shovels	50.5	1.0	8.0	1.0
Garbage pans	5.8	1.0	68.0	1.0
Water urns	88.3	1.6	68.0	1.2
Earthern containers	91.3	3.9	80.0	1.4

(Continued on next page)

Table 8 (continued)

Article	Villages		Cities	
	Per cent of total households having	Average per household	Per cent of total households having	Average per household
Salt boxes	29.1	1.0	60.0	1.0
Bread boxes	3.9	1.0	4.0	1.0
Wooden spoons	58.3	1.2	40.0	1.0
Ladles	59.2	1.6	52.0	2.0
Water cans	57.3	1.1	76.0	1.2
Spatulas	1.0	1.0	-	-
Cool tongs	61.2	1.0	88.0	1.0
Crater	68.9	1.0	84.0	1.0
Coal shovels	18.4	1.1	32.0	1.1
Wash tubs	55.3	1.0	88.0	1.1
Water barrels	11.7	1.5	48.0	1.0
Floor brushes	5.8	1.0	40.0	1.0
White washing brushes	58.3	1.0	68.0	1.1
Covered ovens	17.5	1.0	4.0	1.0
Scales	34.0	1.1	20.0	1.0

Source: Sample Survey of Crete: Form 3, Inventory

goods and services which Cretan families purchase in the market.

Though size of money income is one of the most important factors limiting the quantity of goods and services purchased in the market, the variety of goods and services available is, in part at least, related to the number of business establishments and their specialization.

Crete, particularly its rural communities, appears to be well supplied with coffee houses. (See Table 9). Cities and villages apparently fare about equally well as far as taverns

Table 9

Business houses per 1000 inhabitants, Crete, 1948

Item	Villages	Cities	Total
Butcher shops	3.5	1.3	3.0
Coffee houses	8.6	4.9	7.8
Grocery stores	2.8	4.7	3.2
Taverns	1.4	1.5	1.4
Pharmacies	.1	.2	.1
Bakeries	.2	.9	.4
Tailor shops	.9	2.3	1.2
Haberdasheries	.9	1.0	.9
Barber shops	2.1	2.2	2.2

Source: Sample Survey of Crete: Form C, Community

and barber shops are concerned. There are relatively more tailor shops and haberdasheries in the cities, as one might expect in view of the greater amount of clothing production in rural households. There are relatively fewer "specialty"

shops than one would find in a more highly developed market economy. The omission of the cobbler and leather shops from the questionnaire leaves a serious gap in an important part of the clothing business.

2. Government provided food. For many indigents government contributions, particularly of food, make up a large part of their subsistence. This important role has fallen to the government largely as a result of war conditions. Large numbers of indigent children receive free school lunches which constitute an important part of their food intake in terms of nutritive value. In 1947-48, one-third of the elementary school pupils were reported as indigents, eligible to receive these free school lunches as well as free textbooks and school supplies. Brief mention of the matter is appropriate here, in pointing out the importance of government services in total income of some persons.

3. Sanitary and health facilities; roads and other means of communication. Such facilities as water supplies and sewage disposal, which are a commonly accepted community responsibility in some countries are not so common in Crete. In the rural communities only two per cent of the households had running water, municipally or individually provided, in the house. Other households had to carry water from various distances. This took from less than one to as many as ninety minutes for each trip. Forty-six per cent of city households

had running water in the house but even this percentage, which is considerably higher than in the rural communities, is much lower than one would expect to find in a modern municipality. However, Crete is a water-scarce area.

A large number of rural villages had no provision for sewage disposal, either public or individually provided. More municipalities had some provision.

Table 10

Per cent of villages and municipalities having types of sewage disposal, Crete, 1948

Type of disposal	Villages Percentage	Cities Percentage	Total* Percentage
None	86		85
Pit	9	36	9
Ditch	4		4
Pit and septic tank	3	11	4
Absorbing tank		54	1
Sewage net	1	14	1
Septic tank	3		3
Total	100	115	107

Source: Sample Survey of Crete: Form C, Community

*Does not total 100 per cent since some villages and towns have both.

Only about one rural village in five had access to a telephone, about one-third had bus service, a little over a fourth had radios, and very few had electricity and post offices. Comparatively, the municipalities fare better, as Table 11 shows.

Table 11

Per cent of villages and cities having certain facilities, Crete, 1948

Facilities	Villages	Cities	Total
Telephone	20	39	20
Electricity	3	46	3
Bus service	33	64	34
Radio	28	46	29
Post office	5	21	6

Source: Sample Survey of Crete: Form C, Community

Other facilities that we associate with health and well-being also were not adequately supplied. Particularly in the rural areas there were few doctors and even fewer dentists, an insufficient number of trained midwives and nurses. Poor roads and inaccessible villages made for even greater difficulties in reaching persons and centers that offer medical and dental assistance.

Table 12

Per cent of villages and cities having given types of roads which are the best types leading to each, Crete, 1948

Types of road	Villages	Cities	Total
Improved roads	22	68	24
Unimproved roads	28	18	27
Trails	50	14	49
Total	100	100	100

Source: Sample Survey of Crete: Form C, Community

A comparison of the estimated average distance of village and city households from medical facilities showed all facilities to be much more accessible in the cities.

Table 13

Average distance of households to medical facilities (kilometers), Crete, 1948

Medical facilities	Villages	Cities	Total
	(Kilometers)		
Doctor	9.7	1.3	8.1
Dentist	20.7	1.4	17.0
Nurse	28.0	2.1	23.0
Midwife	4.7	1.3	4.0

Source: Sample Survey of Crete: Form C, Community

The relatively few professional persons in rural areas was another indication of the fact that probably the distribution of medical personnel was very unequal, with a large proportion preferring the city in which to set up their practice. (See Table 14). Under the Greek ministry there were provisions for public health centers and clinics which would meet the need for rural families, but as yet these were not available to large numbers. Chief reasons for the unavailability were lack of funds, lack of personnel, and plant facilities.

Survey data revealed the average number of persons per doctor, dentist and other professional health personnel to be

rather high, especially in the rural areas. For example, there were approximately 580 persons per doctor in the municipalities, but 2750 persons per doctor in the rural areas. There were four times as many persons per dentist and six times as many per pharmacist as there were persons per doctor and they appeared in this same ratio in both municipalities and villages. On the other hand, trained nurses and trained midwives were scattered proportionately between city and rural population. Nurses and midwives were only a fourth as numerous as doctors. The untrained nurses were as numerous as the doctors in the cities but only one-third as numerous in the rural areas. Most of the untrained midwives lived in the villages and served an average of 540 persons each as compared to 1560 persons in the cities per untrained midwife. Most of the veterinarians, of course, are located in the rural areas. Similar information for herb doctors and bone-setters may be noted in Table 14.

The most common kinds of diseases and their prevalence are an indication of the adequacy of sanitation and health facilities and, indirectly, a measure of level of living. The incidence of diseases like typhoid, tuberculosis, malaria, trachoma, dysentary, oriental sore, are to be noted especially. (See Table 16).

Ordinarily these diseases are found in areas having high death, infant and maternal mortality rates, and short life expectancies at birth.

Table 14

Distribution of professional personnel.
Population per specialist, Crete, 1948.

Specialist	Villages	Cities	Total
	(Population per specialist)		
Doctors	2750	580	1630
Dentists	10980	2300	6470
Nurses - trained	7390	10930	7880
untrained	7840	575	2350
Midwives - trained	6200	5830	6140
untrained	540	1560	610
Pharmacists	17470	3120	9460
Herb doctors	48040	43730	47280
Bone setters	2000	29150	2420
Veterinarians	16010	29150	17510

Source: Sample Survey of Crete: Form C, Community

Table 15

Crude death rates, Crete
1946, 1947, 1948.

	Villages	Cities	Total
Death rate (per 1000)			
1946	9.27	12.6	9.89
1947	7.70	10.3	8.19
1948	8.64	10.2	8.93

Source: Sample Survey of Crete: Form C, Community.

Table 16

Number of cases of specified diseases and their incidence per 100,000 in 1947 and 1948.

Disease	Total 1947* Number of cases	Total 1947* Incidence	Total 1948** Number of cases	Total 1948** Incidence
Typhoid	1581	1407	1494	317
Tuberculosis	2057	440	1422	301
Malaria	12692	2713	11633	2464
Venereal diseases	1008	215	990	210
Trachoma	4495	916	6574	1393
Whooping cough	18419	3938	15159	3211
Measles	10722	2292	2280	483
General ophthalmia	0	0	0	0
Tetnus	135	29	95	20
Diptheria	808	173	674	143
Kala-azar	94	20	136	29
Oriental sore	1641	351	1602	339
Meningitis	82	18	71	15
Dysentery	11346	2426	18677	3956
Cold & influenza	56488	12076	90592	19190
Leprosy	14	3	233	49
Brucellosis	92	20	15	3
Scarlet fever	94	20	124	26
Cancer	560	120	308	65
Rheumatic fever	6895	1474	10415	2206

Source: Sample Survey of Crete. Form C, Community

*Based on estimated total population for June 30, 1947 of 467,756.

**Based on estimated total population for June 30, 1948 of 472,080.

The death rate from the Survey estimates (8.9) is much lower than one might expect after noting the kinds of diseases which were prevalent and rather poor sanitary conditions to be found in Crete. One explanation which has been suggested for the death rate which is so much lower than the pre-war rates is that many persons who would have died later died earlier because of the rigors of wartime which they could not survive. This phenomenon is said to have occurred in other European countries that were actively engaged in the recent hostilities.

4. Educational facilities. The school system in Crete consists of a six-year compulsory elementary school, a six-year secondary school (the gymnasium, or high school) and limited opportunities for two to six years of higher education.

In both the elementary schools and the gymnasium emphasis is placed on the classics. Relatively few Cretans go beyond the elementary level; the curriculum is designed with the idea of exposing them to as complete a survey of knowledge as possible. Both community and city households live within an estimated average distance of 0.5 kilometers from an elementary school. In general, the gymnasiums are not so conveniently located in rural as in urban areas. Average distance of the village households from a gymnasium was 18.0 kilometers; for city households the average distance was 1.7 kilometers.

Table 17

Elementary schools in Crete: Number and facilities, Crete, 1948.

	Villages	Cities	Total
Number			
Number of villages & municipalities	1415	28	1443
Number of villages with schools	722	12	734
Number of schools	723	31	754
Villages per school	2.0	.9	1.9
Number of pupils per teacher	58.0	65.0	59.0
Number of rooms per school	1.5	3.7	1.6
Per cent of schools:			
Having stoves	22.0	19.0	22.0
Having toilet	34.0	55.0	35.0
Having good water	24.0	71.0	26.0
Having playground	56.0	45.0	56.0
Having playground equipment	10.0	0.0	9.0
Serving school lunch	63.0	32.0	61.0
Having regular school building	86.0	84.0	86.0
Reporting enough books	26.0	29.0	26.0

Source: Sample Survey of Crete, Form A, Household

In 1948 there was an elementary school for every two rural villages and more than one per municipality. There were 10 per cent more pupils per teacher in the urban than in the rural schools. Villages schools averaged fewer rooms per school than schools in the cities; also a smaller proportion had toilets and what interviewers reported as "good" drinking water; relatively more of the rural schools served school lunches. (See Table 17).

In 1937-38 there were an estimated 28 public and 4 private high schools on the Island. These schools had enrolled 5,451 in the public and 622 in the private schools, an average of approximately 45 pupils per teacher.[9/] Besides the gymnasiums, offering a classical curriculum, there was a public commercial high school, a household arts school for girls and a practical trade school for boys, all located in Canea.

The adequacy of educational facilities is reflected in part by literacy rates and average level of education attained by the adult population. These are summarized in the tables which follow. If, by definition, literacy is to include only those persons 8 years of age or over who say they can read and write, on this basis 82 per cent of all males and 60 per cent of all females were literate in 1948. In the cities 86 per cent of the males and 68 per cent of the females stated they could read and write while in the rural areas the percentages were 81 and 58 per cent respectively.

Another suggested method of indicating the state of literacy is the number of persons 8 years of age or over who have completed the fourth grade in school. This measure of literacy was consistently ten per cent below the percentage of those who stated that they could read and write.

In general men attain a higher level of education in Crete than the Cretan women do. Among both men and women, those

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9/ Woods, Ralph H. Survey of Educational Facilities in Crete, 1948. This Survey was conducted by Dr. Woods for the Rockefeller Foundation.

Table 18

Per cent of persons eight years old or over who have completed at least four years of school and the per cent who say they can read and write, Crete, 1948

	Villages			Cities			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Per cent who had at least 4 years of school	71	48	50	78	55	65	72	50	60
Per cent who said that they could read and write	81	58	69	86	68	76	82	60	70

Source: Sample Survey of Crete. Form A, Household

Table 19

Highest year of school completed by all persons 21 years of age or older on September 1, 1948. Classified by sex. Crete, 1948

Highest year completed	Villages		Cities		Total	
	Male %	Female %	Male %	Female %	Male %	Female %
6 grades or less	85	95	64	72	81	90
7 to 12 grades, incl.	12	4	28	26	15	9
12 to 18 grades, incl.	3	1	8	2	4	1
Total	100	100	100	100	100	100

Source: Sample Survey of Crete. Form A, Household

living in the municipalities, on an average, attain a higher level of education than do men and women living in the rural communities.

Four-fifths of the men and nine-tenths of the women had not gone beyond the sixth grade in school, and the proportion was still higher in the rural communities. A very small percentage of either men or women had completed twelve or more grades in school. Two world wars and many internal struggles have tended to hamper the development of desirable educational improvements, but Crete has shown real progress in literacy during the past twenty years. During this period literacy defined as per cent who said they could read and write was increased from an estimated average of 57 per cent to 70 per cent (See Table 18, page70).

Chapter 4
Levels of Living in Crete, Cont.
Three Budget Items, Food, Clothing and Housing.

This section includes discussions of three items in the Cretan pattern of consumption: food, clothing, and housing.

1. Food consumption and nutrition*

In Crete the importance of such crops as olives, cereal grains and fruits is notable now as it has been from antiquity. Cereals are the most important single source of energy (See Table 20). Bread is a basic food without which no meal is complete. Even among diabetics, there is an attempt to reduce other sources of carbohydrate intake enough to permit at least a small amount of bread in the diet. Bread is also symbolic. As the housewife completes the shaping of a new loaf she may cross herself and/or imprint the sign of the Cross on the bottom of the loaf. Breads are important in church ceremonies and in commemoration of important events or crises in

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*This section on nutrition is based largely on data from the 7-day dietary records of a sub-sample of 128 Cretan families. Analysis of these 7-day dietary schedules was mostly done by Dr. Calla Van Syckle. Dr. J. Tremolieres acted in an advisory capacity. It was hoped that a detailed and technical analysis of nutritional status would be made. At the time of this writing, however, such a report had not been completed.

Information on recipes and food customs was acquired from the schedules and other sources. Miss Van Syckle got some information through correspondence with people in Crete.

Miss Helen Sdrin, Greek home economist mentioned earlier in the thesis, read most of this nutrition section. Her suggestions, mostly of a minor nature, were incorporated in the final writing.

in the family. For example, loaves and rolls may be taken to the church periodically, following the death of a relative. These are later distributed to the poor.

In general, in economically backward countries, the percentage of calories derived from the cereal-potato food group is higher than the 40 per cent found in Crete. In countries like China and India, for example, this percentage may run as high as 80 to 90 per cent. Next in importance to cereal foods, which provide almost two-fifths of the total caloric value in Crete, come the fats and oils, providing 30 per cent. Consumption of fats and oils in countries like China and India, therefore, would be lower. Olive oil is an important ingredient in Cretan cooking. To the foreign visitor foods seem, literally, to be "swimming" in oil. Olives, eaten as fruit, may be more important in total intake in some seasons than Table 20 would imply, some families eating them even for breakfast.

Meals and methods of food preparation are relatively simple. Seldom do families cook more than twice a day, and in many households only once. There is little large equipment, almost no refrigerators nor ranges. Fireplaces and braziers are commonly used for cooking. Few households own ovens and most baking of bread and meat is done in village or city community bakeries.

Table 20

Percentage of total energy value (calories) furnished by various food groups. All families, Crete, Fall, 1948.

	Per cent
Cereal foods	39
Potatoes	5
Oil and fats	29
Olives (fruit only)	1
Other fresh vegetables and all fruits	10
Pulses, nuts, sesame	7
Milk, cheese, meat, eggs, etc.	7
Sugar and sweets	2
Total	100

Source: Sample Survey of Crete, Form I, Seven-day diet record.

As many as five meals per day may be served in Crete: breakfast, mid-morning, noon and mid-afternoon meals, and supper. All families do not eat at all of these five times, although many eat four times a day. Survey estimates set the average at 3.7 meals per day.

Breakfast is a simple meal, taken at an early hour, six or seven o'clock in the morning. Tea or coffee and bread make up the most common breakfast. Occasionally cheese, fruit or olives may be eaten. In some households wine, alone or with bread, serves as the day's first meal.

The mid-morning meal, particularly in the rural areas, is an important meal, heavier than the early breakfast, and in some families is a substitute for lunch. In the

municipalities this may be a light repast, more like the early breakfast, but in rural households some main food combination more likely is served. Frequently, cooked food which is left over from the previous day's dinner or supper may be eaten at this time.

Usually the noon meal is the most important meal of the day. Bread and oil always appear in the noon meal. These, plus vegetables, either dried pulses or fresh vegetables, is the typical noon menu. All families serve fish more often than meat on week days, families in municipalities using more fresh fish per capita than those living in rural communities. The latter eat more snails and dried or canned fish. Sometimes eggs are served to all the family at this meal; sometimes to children only. About two-thirds of the families questioned said they thought children needed a diet different from what adults ate. Various reasons were given, the most frequent one being that children were growing or needed food that would aid growth.

Stewing is a common method of preparing the main dish combinations of meat, pulses and vegetables. This usually means cooking with oil, onions, and tomatoes. Use of cereals and vegetables in combination with meat extends the latter, as in the stuffing of cabbage or vine leaves with minced meat to make "dolmathes". Meat may be used with cereals to make soup or stewed with tomatoes, onion, oil and macaroni.

Only one or two items are served at mid-afternoon meals, often fruit alone or as the main dish. Sweets are served more frequently at this meal than any other, sometimes alone or as a supplement to some other item. Cretans do not serve dessert after meals in the manner customary in the United States. Sweets served in the afternoon, or, in some households to guests only, consist largely of preserves. To guests who drop in for a short visit the hostess may serve home-made jam from a small dish or jam bowl. Each guest is given a spoon with which he serves himself. He eats the jam and puts the spoon in a glass of water, from which he may first have had a drink.[1/]

At supper time cooked food left from the noon meal may be served. In many households (almost half) cooking is done only once a day and enough food is prepared at that time for two or more meals. Then the main cooked dish can be supplemented with additional foods which require no cooking.

a. Fasting and feasting. Friday is always a fast day. The most important annual fast periods are observed before Easter during the Lenten season and in August. Animal products are notably low in quantity or absent entirely from the diet during fasting periods.

Use of less oil is characteristic, too. The following, in decreasing order of importance, were named as foods eaten during fasts:

1/ Stillwell, Agnes. Crete, Where Sea Kings Reigned. National Geographic. 84:548. 1943.

Fresh vegetables, including tomatoes and potatoes
Pulses
Olives
Bread, rice, macaroni, etc.
Fish roe, shrimp, squid
Honey, halvas[2], must syrup[3]
Fresh fruit
Tea and sugar
Sesame emulsion
Hondros[4]

Feasting usually is a part of the celebration of special occasions. Within individual families, relatives may gather during the year on "name days" (a person's saint's day, celebrated instead of his birthday), for christenings, weddings, and other special events.

Village festivals take in the whole community. Every village has at least one religious local feast annually when all work is suspended. There are many national, religious, and other local holidays, too. Twenty-two of these were observed by government agencies and banks in 1948. Fourteen of these are ordinarily observed by shopkeepers and other businesses.

Foods such as shortbreads, fritters or doughnuts, cakes and macaroons are associated with Christmas and New Years. At Easter milk buns are popular.

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[2] Confection made from sesame (decorticated) sweetened with honey.

[3] Must syrup or petimezi is a syrup about the color and consistency of light molasses, made from grape juice.

[4] Crushed wheat and milk (sweet or sour) salted and cooked together, then spread out in thin sheets and dried in the sun.

On Sunday, always a feast day, meat is served if the family can afford it. Meat alone or with cereal was mentioned as a "favorite food" of families far oftener than any other single food. Seventy-two per cent of families questioned mentioned fish; 14 per cent, macaroni and rice. There was no indication, from reported responses, of a special fondness for sweets.

2. Nutritive value of the diet

Dietary estimates revealed that, in terms of averages, the most serious deficiencies in Cretan diets probably were in animal protein, calcium, riboflavin and vitamin A. Only 4 per cent of the families had no deficiencies according to the National Research Council's Recommended Allowances which were used as a standard of comparison. On the other hand, none of the families were deficient in all nine nutrients. About sixty per cent of the families were deficient in 3 nutrients or less; two-fifths were deficient in 4 or more.

The National Research Council's Recommended Allowances which were used to evaluate the Cretan diet are based on the estimated average needs of people of given age, sex, and activity, living in the United States. Individual needs may vary, of course, even within the United States. Obviously, such a criterion must be used with still more qualification if applied to individuals living outside the United States.

Table 21

Per cent of families deficient* in specified number of the nine nutrients. Crete, Fall, 1948

		Per cent
Families deficient in:	None	4
	1 nutrient only	10
	2 " "	23
	3 " "	27
	4 " "	16
	5 " "	11
	6 " "	3
	7 " "	3
	8 " "	2
	9 " "	0

Source: Sample Survey of Crete. Form I, Seven-day diet Record

*Deficient defined as less than 80 per cent of the National Research Council's Recommended Daily Allowance.

For example, it cannot take account of important national differences which may exist. The latter include such things as ability of the human organism to adapt itself to particular conditions, including, exposure of the body to sunlight, differences in mineral content of drinking water, and various methods of food preparation, food customs, etc. These qualifications hold within the United States for different individuals in different geographical areas. The magnitude of such differences in other countries has not yet been sufficiently

investigated.*

Consumption of large amounts of olive oil and bread assures enough calories to most Cretans, except possibly to those in the lowest income groups.

Quantitatively, total protein intake does not appear low. However, when one notes the proportion (about 1/4) which animal sources contribute to this total the quality may be questioned. Roughly, 7 per cent of total energy value of the diet is contributed by such animal products as milk, cheese, meat and eggs. The high price of meat not only discourages its purchase by poorer families, but among families raising meat animals this price situation may attract more meat into the market than into the kitchen.

Milk and cheese, cereal foods and pulses contribute the greatest percentage of calcium to the diet. The low consumption

*Normative standards have developed along with the biological sciences. The field of home economics particularly has made use of knowledge from these sciences in devising standards for consumption. Such standards have come out of countries which are most devoted to applied science. In these countries they serve a useful purpose. When applied to international comparisons, however, they must be used more cautiously. Even the well-meaning individual, armed with what he regards as "scientific standards" is likely to make judgements in terms of his own cultural values. The recommended daily allowances for the different food nutrients furnish the best example. Particularly is this true when these are translated into and thought of in terms of particular foods. In some cases native diets may be more adequate than they appear to the outsider who does not have complete information on the nutritive value of native foods, the method of preparation, soil in which the foods were grown, etc. Climatic differences, and the adaptability of the human organism may make for different nutritional requirements in different areas of the world.

of such calcium-rich foods as milk and cheese in part accounts for what may be a deficiency in this mineral. On the more positive side, however, the water in Crete contains small amounts of calcium and greater amounts of lime in the soil may produce vegetables which are better sources of calcium than those grown on soils less rich in lime. Furthermore, the mild climate permits exposure of the body to sunshine for a large part of the year, particularly in the case of children. The increased vitamin D production which results is believed to bring about a better utilization of calcium.

The apparently serious deficiencies in riboflavin and vitamin A also may be related to the rather low consumption of such foods as milk, cheese, meat, eggs and yellow and green vegetables. Particularly at certain seasons of the year when some of these are less plentiful then at harvest time when the Survey was made, the above deficiencies may be quite serious.

a. Food consumption and income. In all areas of the world, and Crete is no exception, outlays for food account for a larger proportion of total expenditures among low income than among high income groups. Table 22 shows that Cretans, on the average, spend a large percentage of their cash incomes for food. Survey estimates indicated that particularly among the lowest income classes, very little cash in 1948 was left for other items in the family expenditure pattern.

Table 22

Per cent of cash income spent for food for households classified by total income classes, Crete, 1947

Income class	Rural Communities Percentage	Municipalities Percentage	Total Percentage
0 - 249	83	91	85
250 - 499	73	83	77
500 - 749	71	82	75
750 & over	66	74	69
All classes	70	79	73

Source: Sample Survey of Crete. Form A, Household

In Crete, as everywhere else, when incomes increase the food bill may get larger in an absolute sense, but smaller relative to other expenditures. Also, where incomes are higher there may be a greater variety in the diet. In Crete, families at the highest income level ($200 per caput and over) served meat almost twice as frequently on Sunday as those in the lowest income bracket. They also tended more often to serve additional food items which supplement the main food combinations. This in itself explains, at least in part, the superior nutritive value of diets often found among higher income families. In this connection, Table 23 is especially interesting. Without exception, average consumption of all food nutrients per equivalent person per day increased as income level per caput increased. This holds

Table 23

Average consumption of calories and various food nutrients per equivalent person per day, classified by per caput income.
Crete, 1948

	Energy Calories	Protein Grams	Calcium Grams	Iron Mg.	Vitamin A I.U.	Ascorbic acid 75 mg	Thiamin 1 mg.	Niacin mg.	Riboflavin mg.	Fats Grams	Carbohydrates Grams
All families	2547	70.7	.46	20.1	3853	90	1.65	19.6	0.98	107.1	337.0
Municipalities all classes	2459	67.9	.45	17.4	4417	94	1.46	13.5	0.88	99.2	329.1
Rural communities all classes (10,000	2565	71.3	.46	20.6	3733	89	1.70	20.8	1.00	108.8	336.6
0-99 dra.)	2393	65.2	.43	18.8	3461	84	1.51	18.7	0.85	103.6	312.0
100-199	2544	72.7	.44	21.5	3879	92	1.78	21.6	1.06	102.0	346.9
200 and over	3065	84.8	.55	23.8	4164	98	2.03	24.7	1.30	135.7	381.4

Source: Sample Survey of Crete: Form I, Seven-day Diet Record

Average needs per person based on recommended allowances per nutrition unit*

All families	2648	65.1	1.05	11.6	4564	71	1.27	12.7	1.63
Municipalities all classes	2474	64.7	1.06	11.6	4554	71	1.22	12.2	1.61
Rural communities all classes (10,000	2693	65.2	1.05	11.6	4562	71	1.28	12.8	1.63
0-99 dra.)	2638	65.8	1.07	11.7	4611	72	1.27	12.7	1.65
100-199	2694	65.3	1.05	11.4	4512	71	1.27	12.7	1.64
200 and over	2840	64.6	1.03	11.6	4573	70	1.34	13.4	1.60

*Based on recommended daily allowances of the National Research Council.

in spite of the narrow income range used in the table and the fact that average incomes were low. Though the same deficiencies were common to all groups, they appear less serious at the higher income levels.

b. Evaluation of the Cretan diet; some qualifications. In evaluating the Cretan diet, one must keep certain factors in mind.

1. The Survey was made at harvest time when there is the greatest abundance of grain and when food generally is most plentiful. Our information relates to the season of the year when nutrition might be expected to be more adequate and food consumption higher than at any other. Information about diets at other seasons would be valuable in an assessment of dietary adequacy.

2. As we noted above, there are some limitations in the application to Crete of dietary standards developed in another country. We refer here to the National Research Council's Recommended Allowances. Furthermore, information on nutrition in Crete is based on a dietary survey of food consumption. There is no supplementary data based on evaluation of individual nutritional well-being by medical examination.

3. Not only seasonal availability, but also a family's financial means, geogrphical location, fasting customs and methods of food preparation affect the variety and adequacy of the diet. The results given here are averages and do not

indicate ranges of adequacy. Neither do they reveal the nature nor extent of possibly existent problems among particular groups.

4. Though it is unlikely that the Cretans' prewar nutrition was adequate by modern standards, many of the more immediately serious needs have arisen out of the long period of fighting and occupation during World War II.

The rations which large numbers of the population receive at less than market price and the free school meals which supplement the children's intake at home are only "emergency" measures. These tend to raise average nutritional status above what the Cretans would be able to provide unaided. A realistic assessment of their potentialities in this area should be made and nutritional well-being evaluated with this in mind.

3. Clothing inventories

A complete inventory was made of all clothing items for a one-sixth sub-sample of sampled households. Conclusions one can draw from the inventory schedules of these 128 families are very limited, however, for example, comparisons of households by income level and by urban-rural residence were discouraged by the statisticians who worked on the Crete Survey because of the small size of the sample. Average number of items per household is of interest, however. As in the household inventories discussed in Chapter 3, comments made on clothing

inventories in this chapter will not imply generalizations which can be applied to Crete as a whole.

In some of the household items listed above (beds, sheets, for example) a much more desirable figure than average number per household having the item would have been average number of items per person, or number of persons per item. Such a comparison is even more important in the case of clothing items. While average per household having the item does give one a rough idea of quantity it is much less informative than average per boy having, girl having, etc. However, per household average was used largely because of its greater economy and convenience in computation.

Most households in both rural villages and cities had supplies of men's underwear, shirts, stockings, boots and/or shoes, and trousers. Relatively more city households in the sample had more shoes and fewer boots than households in the villages. Also, a larger percentage of city households had complete suits, raincoats, scarfs, ties, and pocket books, while more rural households had capes, sweaters, kerchiefs and waist belts (which checks with comments made in the last chapter contrasting city and village apparel).

Not knowing how many men there were per household, one cannot make sensible comparisons on average number of garments per man. On a household basis, urban-rural differences were not striking, though the average number of items per

Table 24

Per cent of households having specified articles of men's clothing on hand and average number of items per household, Crete, 1948

Article	Villages		Cities	
	Per cent of households having	Average per household	Per cent of households having	Average per household
Undershirts	85.6	2.8	89.5	3.6
Underpants	91.1	3.8	94.7	4.9
Night gowns	3.3	1.7	5.3	1.0
Pyjamas	5.6	1.0	21.1	1.5
Shirts or blouses	97.8	3.6	89.5	3.6
Suits complete	41.1	1.4	73.7	1.6
Jacket	52.2	1.7	52.6	1.7
Capes-shawls	41.1	1.1	5.3	1.0
Sweaters	37.8	1.6	42.1	1.5
Hats	37.8	1.6	36.8	1.1
Overcoats	43.3	1.2	57.9	1.9
Raincoats	6.7	1.0	21.1	1.0
Stockings	67.8	3.3	84.2	4.4
Shoes	45.6	1.4	78.9	1.3
Boots	83.3	1.5	63.2	1.2
Rubbers	3.3	1.0	-	-
Slippers	2.2	1.0	5.3	1.0
Handkerchiefs	83.3	3.3	94.7	5.2
Kerchiefs	37.8	1.2	15.8	1.0
Scarfs	7.8	1.0	26.3	1.0
Gloves	5.6	1.2	36.8	1.1
Umbrellas	17.8	1.0	42.1	1.0
Trousers	98.9	2.6	100.0	2.3
Vests	41.1	1.5	31.6	2.3
Ties	15.6	1.8	42.1	2.2
Waist belts	45.6	1.4	21.1	1.2
Belts-leather	71.1	1.2	84.2	1.1
Apron	11.1	1.7	15.8	2.7
Pocket-book	6.7	1.0	21.1	1.0

Source: Sample Survey of Crete: Form 3, Inventory

household tended to be a little higher in cities than in rural villages. It is well to keep in mind, however, that size and composition of households may be a factor here.

Most common articles of boys' clothing in both cities and communities appeared, from inventory lists, to be underpants, shirts, shoes, trousers, and belts. Pyjamas, nightgowns, hats, stockings and ties seemed to be found more often in city households. Averages per household showed no striking differences between urban and rural families, though city households tended to have slightly higher averages of each item.

Women in both the villages and cities often had the following articles of clothing: panties, jackets, stockings, shoes, handkerchiefs, kerchiefs, brassiers, dresses and aprons. In the cities more women had pocket-books, gloves, and umbrellas. These differences are not unlikely. They also had more overcoats than the village women, but the relatively smaller percentage of rural households which had shawls and capes appears strange in view of the common use of the shawl, especially in the rural areas. Actually, in the inventory, a larger proportion of city households reported this item.

Average number of articles of women's clothing was, for almost every item, at least a little greater in city than in village households. This may or may not be indicative of the observation that clothing and fashion probably are considered more important in the cities than they are in the rural villages.

Table 25

Per cent of households having specified articles of boy's clothing on hand and average number of items per household. Crete, 1948

Article	Villages		Cities	
	Per cent of households having	Average per household	Per cent of households having	Average per household
Undershirts	35.6	2.9	50.0	3.0
Underpants	75.6	3.8	75.0	3.9
Night gowns	-	-	16.7	1.0
Pyjamas	4.4	1.5	16.7	1.0
Shirts or blouses	95.6	3.6	66.7	4.0
Suits complete	35.6	1.6	50.0	1.0
Jacket	35.6	2.2	33.3	2.2
Capes-shawls	2.2	1.0	-	-
Sweaters	42.2	1.6	50.0	2.0
Hats	13.3	1.3	33.3	1.0
Overcoats	35.6	1.4	58.3	1.3
Raincoats	2.2	1.0	8.3	2.0
Stockings	28.9	2.7	58.3	3.4
Shoes	84.4	1.6	91.7	2.1
Boots	28.9	1.5	25.0	1.3
Rubbers	2.2	1.0	-	-
Slippers	-	-	-	-
Handkerchiefs	40.0	2.6	33.3	3.2
Kerchiefs	2.2	2.0	-	-
Scarfs	-	-	-	-
Gloves	4.4	1.0	-	-
Umbrellas	2.2	1.0	-	-
Trousers	100.0	3.4	100.0	3.1
Vests	13.3	1.8	-	-
Ties	2.2	3.0	8.3	1.0
Waist belts	6.7	1.0	-	-
Belts-leather	80.0	1.4	50.0	1.7
Petticoats	2.2	4.0	-	-
Apron	-	-	-	-
Pocket-book	2.2	1.0	16.7	2.0

Source: Sample Survey of Crete: Form 3, Inventory

Table 26

Per cent of households having specified articles of women's clothing on hand and average number of articles. Crete, 1948.

Article	Cities		Villages	
	Per cent of households having	Average per household	Per cent of households having	Average per household
Undershirts	28.0	3.4	31.3	2.2
Panties	100.0	6.3	97.0	4.6
Nightgowns	64.0	2.7	31.3	1.8
Pyjamas	8.0	1.0	2.0	1.0
Shirts or blouses	56.0	2.5	47.5	1.9
Suits complete	36.0	1.0	16.2	1.4
Jacket	52.0	1.6	57.6	1.4
Capes - shawls	28.0	1.4	15.2	1.1
Sweaters	52.0	1.2	41.4	1.1
Hats	-	-	2.0	2.0
Overcoats	80.0	2.4	45.5	1.1
Raincoats	-	-	-	-
Stockings	76.0	3.3	86.9	2.5
Shoes	96.0	2.0	96.0	2.0
Boots	-	-	3.0	1.0
Rubbers	-	-	-	-
Slippers	64.0	1.5	48.5	1.2
Handkerchiefs	92.0	4.1	74.7	3.3
Kerchiefs	68.0	1.7	80.8	1.8
Scarfs	8.0	1.5	2.0	1.0
Gloves	36.0	1.2	4.0	1.0
Umbrellas	24.0	1.2	13.1	1.1
Vests	-	-	1.0	1.0
Waist belts	4.0	1.0	2.0	1.0
Belts - leather	32.0	1.1	11.1	1.2
Brassiers	68.0	3.6	60.6	3.0
Slips	88.0	4.3	86.9	3.2
Petticoats	16.0	1.2	30.3	2.1
Corset	-	-	4.0	1.0
Dress	96.0	4.3	97.0	3.5
Skirt	56.0	2.7	43.4	1.5
Apron	84.0	2.3	77.8	1.9
Fur neck piece	-	-	1.0	1.0
Pocket-book	60.0	1.7	28.3	1.4

Source: Sample Survey of Crete: Form 3, Inventory

Table 27

Per cent of households having specified articles of girls' clothing on hand and average number of articles. Crete, 1948.

Article	Villages		Cities	
	Per cent of households having	Average per household	Per cent of households having	Average per household
Undershirts	12.5	2.4	-	-
Panties	92.5	5.8	83.3	8.0
Nightgowns	15.0	2.7	33.3	1.5
Pyjamas	-	-	16.7	2.0
Shirts or blouses	47.5	3.0	66.7	3.5
Suits complete	2.5	1.0	-	-
Jacket	42.5	1.4	-	-
Capes-shawls	2.5	1.0	-	-
Sweaters	45.0	1.5	83.3	1.4
Hats	2.5	1.0	16.7	1.0
Overcoats	57.5	1.5	63.3	1.8
Raincoats	-	-	16.7	1.0
Stockings	50.0	1.9	50.0	4.0
Shoes	100.0	1.9	100.0	2.2
Boots	2.5	1.0	-	-
Rubbers	-	-	-	-
Slippers	7.5	1.3	-	-
Handkerchiefs	70.0	3.8	66.7	3.2
Kerchiefs	20.0	1.4	16.7	1.0
Scarfs	5.0	1.0	-	-
Gloves	5.0	1.0	50.0	2.0
Umbrellas	-	-	-	-
Trousers	-	-	-	-
Vests	2.5	1.0	-	-
Ties	-	-	-	-
Waist belts	-	-	-	-
Belts-leather	15.0	1.2	16.7	1.0
Brassiers	42.5	3.1	16.7	3.0
Slips	90.0	3.6	66.7	2.5
Petticoats	5.0	2.5	-	-
Corset	2.5	1.0	16.7	1.0
Dress	100.0	4.4	83.3	5.4
Skirt	17.5	1.9	66.7	2.0
Apron	27.5	2.3	16.7	1.0
Fur neck piece	-	-	-	-
Pocket-book	10.0	1.0	16.7	1.0

Source: Sample Survey of Crete: Form 3, Inventory

Table 28

Total number of article of infant's wear and supplies, number of households having.
Crete, 1948.

Article	Villages		Cities	
	Total no. of articles	No. of households having	Total no. of articles	No. of households having
Diapers	120	13	54	3
Panties	92	15	29	3
Undershirts	67	21	19	5
Belly-bands	10	8	-	-
Fascia-bands	39	19	8	3
Slips	42	12	19	5
Dresses	63	23	15	3
Night gowns	6	3	4	1
Sweaters	16	11	1	1
Stockings	29	13	5	2
Shoes	17	15	2	2
Coats	17	14	3	2
Bonnets	18	8	-	-
Bibs	66	17	13	4
Buntings	19	8	4	1
Wrapping blankets	20	9	5	3
Quilted pads	1	1	-	-
Sheep skin	14	14	-	-
Rubber pants	2	2	-	-
Pottie	2	2	1	1
Baby chair	5	5	1	1
Bath basin	-	-	1	1
Carriage	-	-	-	-
Cradle	1	1	3	3
Formula bottles	3	3	2	1
Nipples	2	2	2	1
Baby-pen	1	1	-	-
Rubber sheet	2	2	-	-

Source: Sample Survey of Crete: Form 3, Inventory

Girls in villages appear to have been best supplied with panties, shoes, handkerchiefs, slips and dresses, (i.e., over 50 per cent of households had these articles of clothing). In cities, the above items plus blouses, sweaters, coats, skirts were owned by most households. These additional items as well as jackets, stockings and brassiers were owned by about 40 to 50 per cent of village households in the sample.

Therewere, at most, only five city households reporting supplies of infants' wear. Comparisons based on such a few cases are of questionable value. However, the greatest differences that did show up were interesting. For example, relatively more city than village households had formula bottles and nipples, potties and cradles. No city households reported a sheepskin urine absorber, but this item appeared in the inventories of 50 per cent of village families. Diapers, panties, dresses, slips, bibs were most common items appearing on inventories of infants' apparel and supplies.

4. Cretan houses and house furnishings

Native stone was the most frequently used material for the thick walls of Cretan houses. Roofs usually were made of clay, tile, concrete, or some combination of these materials. Earth was a commonly used material for floors in Crete, either alone or in combination with something else. Earth, earth and wood, earth and concrete, and a combination of earth, concrete

and wood, made up the floors in 87 per cent of the rural houses. The earth floor is prepared by pounding the earth until it is very hard. Sometimes this is accomplished, not by pounding alone, but by inviting friends over for a dance. The dancing is an entertaining method of producing a solid floor.

A large number of houses in Crete were one or two story structures. In the rural communities 64 per cent of the dwellings sampled had a "general floor" (one story) and 36 per cent a "first floor", or what we would call two stories. In cities 70 per cent of sampled houses had one story, 28 per cent 2 stories, and 2 per cent three stories.

As for total number of rooms in the dwelling, fewer village than city households were living in one room. However, when rooms used only for living quarters are included, the urban-rural differences were not so great. But among city houses, almost one-fourth of the households had more than three rooms while in rural communities only 9 per cent had more than three rooms.

On an average there were 4.1 persons per household and two-thirds of the dwellings had three rooms or less. More important, however, than the number of rooms is the use to which they are put and their adequacy in meeting family needs. Adequacy includes such things as size of the rooms, their furnishings, facilities, and the condition in which they are kept. This must be considered together with family needs: size, age

and sex composition, occupation, and the activities carried on in the home.

Table 29

Average number of square meters per household and per person. Crete, 1948.

Average no. of square meters of floor space	Villages	Cities	Total
	(Square meters per household)		
Total dwelling unit	56	39	52
Total in living quarters	39	37	39
Per person in total unit	13	10	13
Per person in living quarters	9	9	9

Source: Sample Survey of Crete: Form A, Household

The average number of square meters of floor space per total dwelling unit was 56 in villages as compared to 39 in the cities. This provided an average of 39 square meters of living area in village households and 37 in the cities, giving 9 square meters per person in each case.

Area of dry floor space per dwelling and per person would mean more than just total area per dwelling and per person. Of course this might to difficult to get, and the floor might be dry for part of the year and damp for another. However, with the number of clay roofs and earth floors in Crete, particularly in the villages, one might well expect dampness during

the rainy season. At any rate, this seemed to be an important reason in the minds of some families for dissatisfaction with their housing accommodations. After answering the question, "Are you satisfied with your housing accommodation?" some who said, "No", gave reasons such as: "In winter the roof leaks and water runs in"; "The house is damp"; "The clay roof leaks in winter"; "Water comes in in the winter"; "In winter water comes up from the floor". In going through schedules, noting comments, one is impressed that the mention of needed roof repairs and dampness was rather frequently made.

In rural communities storage space was provided in about one-half of the homes; 41 per cent of the families had one room for storage and 10 per cent had more than one room for storage. In comparison, 92 per cent of the city homes had no rooms used only for storage purposes and 7 per cent had one room for that purpose. Amount of storage space was larger in the village homes, too; 42 per cent of the households had more than 10 square meters of floor space as compared to 4 per cent in the cities.

In some households animals were sheltered in the family's living area. In other households no provision was made for shelter (probably animals were stabled in the yard), while a few households used a neighbor's stable. In the cities more households had the family and animals co-sheltered in the same room than did the village households. In both urban and rural areas two-fifths of the households with animals had provided

Table 30

Per cent of households with specified number of storage rooms. Crete, 1948.

Number of rooms	Villages Percentage	Cities Percentage	Total Percentage
0	49	92	54
1	41	7	35
2	8	1	7
3	1		1
4	1		1
Total	100	100	100

Source: Sample Survey of Crete: Form A, Household.

Table 31

Per cent of households with animals by specified shelter. Crete, 1948.

	Villages Percentage	Cities Percentage	Total Percentage
Separate shelter	41	41	41
Rooms connected with house	25	32	26
Under main room	11	11	11
Co-shelter with family	8	14	8
No shelter	14	2	13
Neighbors	1		1
Total	100	100	100

Source: Sample Survey of Crete: Form A, Household.

separate shelter for them.

Cretan households, particularly in the rural areas made such use of their yards that many times the yards could be considered almost a part of the dwelling unit. Besides such common functions as providing a place for children to play, for family members to sit, and as an approach to the house, the yard also served as a storage area for wood and a place for stabling animals or for tethering them temporarily.

a. Furnishings and facilities. In rural communities the most common method of heating houses in cold weather was the fireplace, with a few families using braziers or stoves. Most households burned wood for fuel, a few others charcoal, and some olive by-products.

In city households the brazier was more commonly used. Fewer families depended on the fireplace for heat. Also, charcoal was more often burned as fuel in the city than in the country because of lower transportation and storage charges and the greater convenience in use.

City families were more often dependent upon community ovens than were those living in the villages. Less than a tenth of the city households had their own ovens while in the rural areas almost half the families had ovens. Many of the small villages did not have a community oven.

Cretan housewives have few "conveniences" in their houses. Of the rural households in which meals were prepared, 97 per cent cooked on the open fireplace. In city homes, 70 per cent

relied on the fireplace; 13 and 17 per cent respectively relied on braziers and kerosene stoves.

Only 2 per cent of rural homes had running water in the home. Other families carried water from springs, wells and other sources. Almost two-thirds of these lived so far from the source of supply as to require more than 10 minutes to fetch the water. For 15 per cent of the families 30 to 90 minutes were required. City families not having the convenience of running water, on an average, lived a shorter distance from the source; for approximately 80 per cent, five minutes or less was required to fetch water.

Inside the house walls were painted or whitewashed. Whitewashing is a customary annual pre-Easter job in each household. (One very common article of household equipment is a whitewashing brush).

In some homes numerous photographs, pictures and wall hangings decorated the walls. More rural than city homes were barren of such adornment, though over half of these homes had from one to nine pictures or hangings. When available, fresh flowers may be used to brighten the interior.

There were few glass windows. However, in the villages most of the windows had shutters (67 per cent) or a combination of glass and shutters (15 per cent) and these are thrown open to admit light and air. Some dwellings had no windows at all.

In the cities more of the houses had glass or a combination of glass and shutters for their windows. Draperies were seldom seen adorning the windows of a rural home. Approximately half of the families interviewed had no drapes in 1948.

How essential windows and draperies are to the Cretan family is difficult to say. During the interview a few indicated that they would like to put more windows in their houses. As for draperies, the figures we have may or may not approximate the pre-war number. During hostilities some families converted washable curtain fabrics, particularly, into underclothing or other garments.

Mirrors were a rather common part of house furnishings, rural households averaging one and city homes more than one.

Table 32

Average number per household of draperies, mirrors, chairs, beds. Crete, 1948

	Villages	Cities	Total
Number of window drapes			
Average per household	.5	1.6	.7
Average per household having	2.3	3.1	2.6
Mirrors			
Average per household	1.0	1.3	1.1
Chairs			
Average per household	4.8	6.2	5.1
Beds			
Average per household	1.8	2.6	2.0

Source: Sample Survey of Crete: Form A, Household

Few households were found to be entirely without chairs though village homes have fewer on the average than the city homes. Seeing a Cretan "sit down"gives one an idea of the importance of chairs in his life. One chair is inadequate. In addition to the usual requirement, he needs at least one to lean on and preferably one or two more for resting the feet and legs. Sometimes as many as four chairs serve one man if he also has a cane to hang over the back of a chair.

In Crete, boards placed across a trestle compose the beds of many families. Even trestle beds, on an average, are few in number. Families having no beds (8 per cent in the villages) may sleep on the floor or in the hayloft. Though the number of inhabitants per dwelling varies considerably, for the average of 4.1 persons in the village household only 1.8 beds were available. The ratio was a little higher in cities. There were only a few city households that owned no beds and for the 3.9 persons per household there was an average of 2.6 beds.

Of all the families interviewed, 26 per cent said they were satisfied, while 74 per cent indicated dissatisfaction with their housing accommodation. More city families said they were satisfied with their dwelling (39 per cent) than rural families (22 per cent).

Reasons for dissatisfaction were as varied as the people making them. For example, the 70-year old woman who said she was not satisfied with her dwelling but was not thinking of

doing anything about it, "What use could it be to me, since I am expecting death"; or, ". . . because it is small, (I would like) a new and larger one so that we would not be obliged to cook, sleep, and store everything in the same room"; the woman who "wants a lavatory, also at least one room which I can offer as a living room to a stranger"; and the discouraged couple who said, "Since we were married, every year we think of building a new floor, but each year our funds worsen." Some families mentioned the desire for "healthier" quarters. High ceilings are considered desirable in Crete. One householder remarked, "The air hinders us very much because the house has a northern aspect; it also has low ceilings and so it is unhealthy." Dampness, as we have noted earlier, was also a source of dissatisfaction with the houses in some families.

All in all, however, the desire to enlarge the dwelling, to increase the facilities and make repairs seemed to predominate over any desire to make major architectural changes. The Cretan's dissatisfaction with his dwelling was more a dissatisfaction with its condition than it was a desire for major changes in the kind or style of home he had. Nor is there any reason why he should feel otherwise. The native materials which have been used for centuries can still be used to construct adequate, attractive houses.

b. Housing needs in Crete and their relation to health and well-being. The lack of sanitary facilities and a safe

water supply was probably the most immediately serious overall need in Cretan housing. Houses could gradually be built and enlarged to include more rooms, storage space and other conveniences if desired. Also more furnishings could be added as financial means permitted. However, the individual family could do much to improve its own facilities for waste disposal with little cash outlay. Community cooperation could do much, at little expense, to protect water supplies from contamination. If more modern facilities were to be desired eventually, then larger investments in public water supply and sewage disposal plants would be necessary.

Such considerations seem particularly pertinent when one notes the kinds of diseases with which the Cretan people are plagued. Though anti-malarial campaigns on the Island have been declared successful in reducing appreciably the number of cases, 24 per cent of the households interviewed stated that they had had malaria (an average of 1.7 cases per family) during the twelve-month period between September 1947 and September 1948. Twenty per cent of the city households suffered from the disease during the same period. It was suggested by Dr. Deusen, a public health doctor, and others in Crete, that Cretan families refrained from reporting tuberculosis, as such, and tended to call all feverish conditions malaria. With so many families reporting the disease, however, it would be desirable to have some further check-up by

Island doctors as to what the ailments might be if not malaria. Trachoma, dysentery, typhoid fever, leprosy and other infectious diseases associated with poor sanitation were also found in Crete.

For some families the housing problem was largely a matter of rebuilding what was destroyed during the war. As might be expected, more city than village houses were damaged during the war. A little less than half (46 per cent) of city houses in the sample met at least some destruction. Of those having some destruction 78 per cent were damaged less than 50 per cent, 22 per cent more than 50 per cent. In the villages 82 per cent of the dwellings escaped damage. Of the remaining 18 per cent only 27 per cent were damaged more than 50 per cent. It should be remembered, however, that houses not yet rebuilt or partially livable had no chance of being included in the Survey. Consequently Survey estimates are an understatement of the damage done to Cretan homes by war destruction. A survey by the Ministry of Reconstruction[51] in Crete indicated about 23 per cent of all buildings on the Island were damaged more than 50 per cent.

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[51] Destruction of Towns and Villages in Greece. Greece, Ministry of Reconstruction. Bulletin no. 11. 1947. p.46.

Chapter 5
Problems Relating to Quantitative Aspects of Levels of Living Which the Crete Survey Revealed

Problems associated with the level of living, particularly its quantitative aspects, cannot realistically be considered apart from production. With the exception of a few free gifts of nature, the goods and services which a family consume must be produced from scarce economic resources. The more efficiently resources can be combined during the process of production the larger will be the total product turned out and potentially available for consumption.

One of Crete's problems is low productivity. In fact, it is one of the more basic reasons for other problems associated with a lower status of physical well-being than even Crete's none too abundant resources would necessitate. As noted above, other things being equal, increased production is the means to a higher income, more goods and services. In this predominantly agricultural economy, average capital investment in equipment was only $32 per farm in 1948. Labor had few tools and little equipment with which to increase its rate of output. Other problems like pests, lack of water, and a need for irrigation, inadequate and/or improper fertilization of soil, etc., further contributed to low productivity and hence, low incomes.

Income distribution in Crete, given in Table 33, shows that in 1947 an estimated 81 per cent of Cretans had less

than $750 income, including that from cash and other estimated sources. The top "cash plus home-produced income" among sample families did not exceed $4800, and there was only one household in the highest cash income bracket, $2250-2799.

Table 33

Number of households having specified incomes, classified by "cash plus" income. Crete, 1947.

Income classes (10,000 dra.)	Rural Communities Percentage	Cities Percentage	Total Percentage
0 - 249	37	27	35
250 - 499	25	27	25
500 - 749	21	21	21
750 - 999	8	10	8
1000 - 1249	5	6	6
1250 - 1499	2	3	2
1500 & over	2	6	3
Total	100	100	100

Source: Sample Survey of Crete: Form A, Household

Another thing which this table indicates is that income distribution was not extremely unequal on the Island as compared with distribution in India, for example. In Crete there were not the extremes of great wealth and poverty which exist together in some of the backward areas.

Although this is not the place to discuss the relative merits of an equal vs. an unequal income distribution, there is something to be said, in an underdeveloped country, for enough inequality to encourage capital accumulation for

purposes of investment. In early stages of increased production without accompanying taxes that are progressive, income distribution might tend to become more unequal than before the increase. This inequality, in part, stems from the fact that the risk involved as well as the scarcity of investment capital often make for very high returns to the owners of capital as compared to wages received by the sellers of labor. This need not be alarming, however, if not carried to too great an extreme, and if savings of the higher income groups are invested in capital equipment that will increase labor productivity, and eventually real wages. In Crete, as we have noted above, the investment in farm equipment is low and makes for a low level of output. Eventually if increased use of capital equipment could lead to the production of more consumer goods at a lower per unit cost, material well-being at all income levels probably could be raised.

Approximately 57 per cent of the Cretan working population was engaged in agriculture as a regular occupation and many other non-farm households supplemented their incomes with agricultural produce. Although commercial crops were produced for export and sale in the cities, much was retained for household use. The full-time occupation of 57 per cent of the working population and home production of food by non-farm families: these together with the fact that an estimated 73 per cent of the income was spent for food by the sample households indicates that a rather large proportion of resources

were being used in the production of food. This goes back again to the problem of low productivity. When so much labor must be used for producing a basic necessity like food, little can be employed elsewhere.

In Crete, the number of persons in three classes of industry (not including government service in the classification) is given in Table 34.

Table 34

Industry of all persons in the labor force.
Crete, 1948.

Class of industry*	Per cent
Primary industries	57
Secondary industries	14
Tertiary industries	14
Government	12
Industry not reported	3

Source: Based on estimates from Sample Survey of Crete: Form A, Household.

*This is based on Colin Clark's classification. He defines primary industries to include agriculture, forestry and fishing; secondary industries, manufacturing, mining and building; tertiary industries, commerce, transport, services and other economic activites.

"Low real income per head is always associated with a low proportion of working population engaged in tertiary production and a high percentage in primary production even in countries which are supposed to be predominantly agricultural (Australia, New Zealand and the Argentine) where, in fact, only about 25 per cent of the working population are found to be engaged in primary production . . . As incomes rise . . . the demand for such services increases, and being non-transportable they must be supplied by workers within the country concerned." (Conditions of Economic Progress, p.7).

1. Food and income

The estimated proportion of income spent for food by Cretan households was high even for countries more economically backward than Crete. However, this may be explained in part by the absence of even a few excessively high incomes to pull the average down. As incomes increase, anywhere, a smaller proportion of total family income is used for food. As less is spent on food more is available for other items.

2. Housing and income

Housing might undergo an improvement if family finances permitted the making of improvements. Though there are other very important factors, too, many families when questioned on the matter, indicated that they would make improvements in their dwellings if they had the financial means to do so. Of course, such comments cannot be taken at face value.

The Survey revealed no evidence that average area or number of rooms per person increase, as one might expect, with the larger incomes (See Table 35). This is partially explained by the fact that, on the average, larger incomes

also are associated with larger families.[1/] (See Table 5).

Table 35

Area of floor space in square meters and average number of rooms per person. Classified by family income groups. Crete, 1948.

Income class (10,000 dra)	Rural communities		Cities		Total	
	No. of rooms/ person	Av. area/ person (in sq meters)	Rooms per person	Area per person	Rooms per person	Area per person
0 - 249	.73	10	.55	10	.58	10
250 - 499	.55	8	.56	9	.56	9
500 - 749	.65	9	.56	9	.58	9
750 & over	.73	10	.65	9	.67	10

Source: Sample of Crete: Form A, Household

Though average number of rooms and amount of space did not increase in the higher income groups, total space did increase enough so that the average per person stayed about the same. It should also be noted that in the tables, incomes are

1/ Results of a study among working class families in Peking showed a negative relation in most cases between income and space per person. The larger families had larger incomes because there were more people to contribute to the incomes. Often, however, the income was not enough larger so that extra space seemed to justify the extra rent required to acquire extra space. As a result large families were found living in one room.

T'ao, Li K. Livelihood in Peking. Peking, Social Research Dep't., China Foundation for the Promotion of Education and Culture. 1928.

given on a per household and not a per capita basis, and incomes per person did not increase as size of families increased.

It is conceivable that larger total space for the larger households could provide more adequate housing than smaller quarters for fewer people, even though average space per person was the same.

Though crowding was not so serious in Crete as it is in some very poor areas where families are forced to pay rent in cash from meager earnings, nevertheless, by U.S. standards Cretan families are, on an average, crowded. In applying U. S. standards, however, it is well to keep in mind the great emphasis which this country places on privacy, so that less than one room per person may be defined as "crowding". Furthermore, adequacy, in the Survey was measured largely in quantitative terms, using two indexes of that adequacy: square meters of floor space and rooms per person. These tell us nothing of the condition in which the house is kept, its facilities, whether it is dry, damp, cold, etc. Also to be considered is the warmer climate in Crete which does not necessitate the kind nor amount of housing required in the U.S.

The relatively small income range is to be noted in Crete also. More and improved housing involves large outlays. Not any of the sampled households had what might be called a high cash income, the highest being in the $2250-2799 range.

3. Income and education

Table 36 is no proof of a cause and effect relationship between income and education. Though differences in average number of school years completed would appear to be significantly large, one cannot say if people earned larger incomes because they had more education or if they got more education because their parents had the necessary financial means. But sending children away to the gymnasiums would require more money than many families could afford.

Table 36

Average number of years of education of heads of households classified by specified income groups. Crete, 1948.

Income classes	Rural Communities	Cities	Total
0 - 249	3.4	2.8	3.3
250 - 499	3.9	3.4	3.8
500 - 749	4.3	6.2	4.7
750 & over	5.5	8.4	6.1

Source: Sample Survey of Crete: Form A, Household

4. Community services and income

The level of income affects to a degree the availability and the adequacy of community services. An economy of low productivity cannot adequately provide either publicly or privately supported services and institutions which are directly associated with the public welfare. For example, only an estimated three per cent of Crete's working population is engaged in professional service. Particularly in the rural areas this reflects itself in a dearth of doctors, dentists, nurses, and public health personnel. Communication facilities are not adequate for a modern economy; this is not only explained by, but in part contributes to, the low level of productivity. More and better roads and marketing facilities (transportation, storage, etc.) as well as more practical education would be most desirable.

What has been emphasized here is the relationship between the quantity of goods and services produced and the types available for consumption. When a large proportion of the income produced must be used in acquiring the most basic necessities, little is left for other things, many of which are essential for physical well-being.

5. Some comparisons with other countries

We shall, for purposes of very rough comparison, present some indices of economic development and physical well-being.

Seven countries have been selected for comparison with Crete: Greece, Egypt, Italy, Turkey, India, Haiti, and the United States. Data on each of these countries were compiled from various sources: yearbooks, international handbooks, and almanacs. Similar data for Crete were selected from the Crete Sample Survey. Unfortunately all desired information is not available for all the selected countries. Some that was available was not included because it was so out of date. When possible post-war data were used, and none earlier than the 1930's were included. Besides lack of available or reasonably recent information, the comparability and reliability of the data may be questionable, too. However, even such admittedly crude and approximate averages as we have, give some interesting, if rough, comparisons among countries, especially when our purpose is not to make precise comparisons between two countries where differences are very small.

Egypt, Italy and Turkey were selected because they are Mediterranean countries and for them there is more information available than there is for other countries in that area, with problems of economic underdevelopment. The United States was selected as an example of a very high level of economic development and to establish a basis of comparison which U.S. citizens could understand.

In Table 37 various comparisons are to be noted. Among these are the density of population and the percentage of population engaged in agriculture, the percentage of calories

Table 37

Some selected indexes of economic development and well-being for seven countries and Crete*

	Crete	Greece	Egypt	Italy	Turkey	India	Haiti	United States
Area (sq. miles)	3202	51,182	386,198	116,235	296,380	1,200,000	10,204	3,022,387
Population (per sq. mile)	148	143	1406	393	67	250	275	44
Pct. of working pop. in agr.	57	54	62	47	65	70	85	22
Railroad miles per 100,000 pop.	0	23	22		38	1.08	5	185
Telephones per 1000 pop.	2	8	5	14	2	.236	1	148
Telegraph messages per capita				.578		.049		1.61
Miles of roads suitable for auto per 1000 sq. miles	140	137.9		1264	81		95.6	1013
Pct. of illiteracy	30				60	87.8	80	
Libraries	3	16				6.3	1	16,265
Pct. of working pop. in professional service	2			3.3		1.6		6.7
Pct. of income spent on food	73							25
Calories derived from cereal-potato group	44	60-70	70-80	60-70	80-90	80-90	70-80	30-40
Crude death rate (per 1000 pop.)	8.93	13.0	28.6	38.1	--	22	28	10

Continued on next page

*Most of the indexes are for the period after 1940. However, a few bear dates of the 30's. (e.g., some of the percentages of pop. in agr. and life expectancies).

Table 37 (continued)

	Crete	Greece	Egypt	Italy	Turkey	India	Haiti	United States
Crude birth rate (per 1000 pop.)	24.1	23.5	38.1	20.5		30.0	30	23.2
Average life expectancy at birth, M		49.1		53.8		26.9		63.7
F		50.9		56.0		26.6		68.6
Persons per doctor	1630						13,788	750

Sources: World Almanac, 1949
U.S. Statistical Abstr. 1948
Foreign Commerce Yearbook, 1938
Sample Survey of Crete
Learned, E. J., op. cit.
Statesman's Yearbook, 1948
Bennett, M. K. International Contrasts in Food Consumption. 31:365-376. July 1941.
Statistical Yearbook of the League of Nations 1942/44. Geneva. 1945.
Thornburg, M. Turkey, An Economic Appraisal, op. cit.

derived from the cereal-potato group of foods. When large numbers of people, relatively, are engaged in agriculture producing mostly primary food products for consumption, then usually one can expect little or poor communication; high illiteracy rates, few telephone and telegraph messages, and few transportation facilities per given number of population. Furthermore, accompanying the relatively small number of literates and communication facilities, crude death and birth rates are high, life expectancy at birth is low, most common diseases are the infectious and filth-borne diseases associated with poor sanitary conditions and relatively few medical and allied health personnel per given number of the population.

In spite of its problems of low income and an unadvanced economic development, Crete is, on an average, better off than countries which have severe population pressures*, though it compares less favorably with the United States in respect to material well-being. Cretans spend a large proportion of their resources on food, but while some may have a "hidden hunger" there is less "hollow hunger" than in some of the

*For countries depending to a large extent on a subsistence agriculture, over 200 persons per square mile would present problems of population pressure.

poorer areas of the world. Furthermore, Cretans probably are better clothed, housed, and educated than people in the poorest countries.

III. THE MORE BASIC ASPECTS OF THE LEVEL OF LIVING AND THEIR RELATION TO CHANGE

Chapter 6
The Total Nature of a Level of Living

Plans to extend technological knowledge and financial assistance propose to increase productivity and, thereby, per capita consumption of goods and services. Although emphasis is placed on production and income, there is often the implicit assumption that improvements in material well-being will somehow accomplish other things, too.

> Point Four helps to achieve peace by improving economic and social conditions that support peace, by bringing hope into many hopeless regions, by channeling energies into constructive action, by strengthening the will and the ability of peaceful people to resist aggression, and by building international cooperation through the United Nations system.[1/]

During the implementation of programs designed to eliminate poverty in large areas of the world, problems may arise to make the realization of beliefs like that expressed in the above quotation difficult. Ignorance of or oversimplification of such problems could not only defeat some rather high-minded purposes but could make matters in some backward areas worse

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[1/] Hayes, Samuel P. Point Four in United States Foreign Policy. Annals of the American Accademy of Political and Social Science. 268:34-5. 1950.

instead of better. For example, if attempts to increase productivity, and consumption, resulted in a worsening of physical well-being, moral degeneration and/or social disorganization such attempts could hardly be considered successful. These problems will be discussed in the pages that follow.

A way of life which has developed over a long period of time possesses, to some extent, a balance, harmony and, in some societies, an integration of its parts.[2/] Satisfactions which are considered essential have in a real, if rather imprecise way, an order of preference. Within the pattern of living economic activity and the resulting output have their places in the scheme of things. Decisions concerning what is to be produced and how and by whom are made within a cultural pattern where other values may greatly influence the economic. The total social scale of preferences includes more than material goods and services. Particularly in some cultures

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2/ "A culture, like an individual, is a more or less consistent pattern of thought and action. Within each culture there come into being characteristic purposes not necessarily shared by other types of society. . . . Taken up by a well-integrated culture, the most ill-assorted acts become characteristic of its peculiar goals, often by the most unlikely metamorphases. The form that these acts take we can understand only by understanding first the emotional and intellectual mainsprings of that society."

"All the miscellaneous behaviour directed toward getting a living, mating, warring, and worshipping the gods, is made over into consistent patterns in accordance with unconscious canons of choice that develop within the culture."

Benedict, Ruth. Patterns of Culture. New York, Houghton Mifflin Co. 1934. p.46-48.

such things as leisure time, traditional (and maybe "inefficient") methods of production and exchange, religion, and trade may compete with the acquisition of more material wealth.

The abstraction of economic activity and material well-being from the total pattern of living sometimes is useful and often appears reasonable enough. However, one making such an abstraction for purposes of obtaining information to serve as a basis for recommendations, does make certain assumptions of which he should be aware. These assumptions, all interrelated, often include the following:

1. All cultural patterns are so similar to the Western pattern that Western methods of production and distribution could replace old traditional methods if knowledge of modern techniques were only made available to people in backward areas.

2. Also, because cultural patterns are similar, scales of preference regarding kinds of consumption goods desired in all cultures are similar. This includes not only material "goods" but "satisfactions" which can be assigned no monetary value.

3. Production and consumption of more goods and services per capita will, <u>per se</u>, improve total well-being.

It is such assumptions, inherent in most proposed programs for economic development, that may intensify, if not actually precipitate, the kind of problems indicated above.

Technical assistance programs pose problems of culture contact, as when techniques developed in one culture are introduced into a different cultural pattern. Whether the total value of output increases or not as the result of employing modern techniques, other changes in levels of living must be considered, too.

The pattern of living, of course, will undergo changes over time. New goods, ideas, and manners may gradually be worked voluntarily into the old pattern. Changes, however, may be unacceptable when they are too rapid or when they are forced on a people from the outside. The impact of one culture upon another may violently disturb the balance and harmony within the old pattern. There are examples of this sort of thing arising out of Western expansion into areas outside Western culture. Some results have been particularly unfortunate when the primary aims have been the expansion and extension of political sovereignty and economic development involving the exploitation of native labor. We shall present illustrations of this in the following pages.

Even when changes are not "forced" on a people from the outside, assistance voluntarily sought may necessitate a difficult transitional period unforeseen by those seeking aid. When, for example, leaders in underdeveloped countries try to promote economic development for their own people they must meet the same problems of adapting outside techniques to their

peculiar cultural setting. The experience of Turkey provides an illustration. In this case the drive for industrialization originated within Turkey itself by the men who led the Turkish revolution in the twenties. Since then there have been efforts to "modernize" not only methods of production but age-old social customs. In some ways the changes which have taken place probably have not gone as deep nor become as wide-spread as they may appear to have done. The observations of the director of the Twentieth Century Fund Survey of Turkey* imply that such is the case.

> The impression one carries away from Turkey is that of a thin layer of modernity imported from abroad and imposed from above, with great will and vigor, upon a population the larger part of which is still steeped in medieval or even ancient ways of life. The contrasts are those brought about by a heroic struggle of the Republic during its twenty-six years of life to mold the Turkish people into a modern state, capable of holding its own among nations. Something has been done in the course of this revolution; much more remains to be done. 3/

It is Thornburg's, the author's, opinion, that in 1949 for 80 per cent of the Turkish population the "revolution" has made little if any improvement in their material well-being. Taxes are high and a large amount of the revenue must be used to subsidize state industries which are not efficient enough to be self-supporting. Furthermore, industries, steel e.g., which often is associated with relatively high industrial development

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*Referred to on page 25 of this thesis.

3/ Thornburg, M. Turkey: An Economic Appraisal. Op.cit. p.4.

has not been adapted to the production of small tools which would meet the needs of the peasant. Most things which are produced, and represent economic progress in a sense, have no meaning at all to the lives of a large percentage of the Turkish people.

Methods necessary to bring about increases in productivity and to improve well-being will have to be worked into, and adapted to, the old pattern of living. Having greater wealth and better health may sound like very attractive promises, but such desirable changes cannot always be made without the sacrifice of some other values. A question which people in the backward areas will be forced to meet is this, "Is the improvement in material well-being which may accompany a sound program of economic development worth enough to compensate for those values in the old life which may have to be sacrificed?" A new scale of preferences will have to evolve. In an expanding economy peoples' material wants will have to expand, too, and as material wants become greater other values may have to be sacrificed.

A case in point is the problem which some foreign employers have met when native workers, in response to a wage increase, have not been willing to work as many hours after as before the wage increase. The possibility of earning more money did not provide sufficient incentive for more and better labor because material wants had not expanded proportionately with the money income or because leisure time possessed greater

psychic value than additional purchasing power.

This has practical application when persons from another culture, or even within the same culture, embark upon a program of development in a backward area, particularly in those areas where an expansion of material wants is not in itself necessarily considered desirable. Forcing undue emphasis upon the material aspect of living is likely to meet with resistance if other values in life must be sacrificed as a result. When any one part of a people's life is abstracted, even with a desire to improve that one part, success may be doubtful.

> Culture change is not a mechanical process; it depends on the ideas of the people who are affected by it, and successful adjustment is not a simple matter of introducing "development", "enlightenment", and "progress" to backward races. Careful study is required in order to bring about the results that are aimed at. This is so even if there be complete and clear agreement as to the kinds of results that are most to be desired. 4/

In Part II of the thesis we were concerned with only those components of the level of living which are most easily measurable and which, therefore, lend themselves to expression as numerical quantities. In this section of Part III we have discussed briefly the total nature of the level of living which includes not only the quantitative components but other aspects which do not easily lend themselves to quantitative measure.

4/ Firth, Raymond. The Effects of Western Culture Upon Primitive Peoples. When Peoples Meet. Alain Locke and Bernhard J. Stern, editors. New York, Progressive Education Association. 1942. p.110-111.

In the next chapter we shall present a few examples of changes which occurred in the total pattern of living of certain primitive peoples when those people came in contact with Western culture. The changes discussed will be those of physical change and social disorganization. We do not wish to imply that the results occurring among peoples in the examples would be repeated exactly in backward areas receiving technical and financial assistance. No two situations are alike and the problems accompanying both quantitative and qualitative changes in income may express themselves in different ways in different situations. However, familiarity with the whole pattern of living would make possible a better adaptation of new techniques to an old pattern, thus minimizing some of the (probably inevitable) problems accompanying changes.

Following these examples we shall summarize some social science principles which have come out of numerous studies, largely among primitive peoples, who have had to adjust, in one way or another, to another culture. Application of the principles to Crete will then be made, and finally, in Part IV, a critique of the levels of living study included in the Crete Survey will be presented.

Chapter 7
Economic Development in Backward Areas as a Problem of Culture Contact

To people living in the United States and other Western industrialized nations the relation between income and well-being is obvious. Individuals from Western countries, therefore, are seldom hesitant about using indicators of economic activity and material wealth resulting therefrom as measures of general well-being. This was obvious in the surveys discussed above in Chapter 3 of Part I. They were cited as examples of the kind of study which probably will be most commonly used in making assessments of conditions in backward areas preliminary to development projects. Emphasis on existing production and its potentialities was noted in the surveys. Furthermore, with very few exceptions, only consumption of material goods was included in the surveys. In most cases even these were treated only briefly.

When one employs only measures of economic development and the consumption which that development makes possible it is quite obvious which areas of the world will get the high scores. As countries achieve a relatively advanced economic development, better sanitation, greater availability of health services, and more and better food, may accompany that development and lead to a reduced death rate and an increased average life expectancy. However, these advantages do not necessarily follow, and along with urbanization and the speeding up of

life which may accompany the greater economic development, there may be an increase in nervous diseases and physical disorders associated with mental or nervous conditions. These and other changes should be noted as an economy "progresses"; changes in family status and stability and attitudes toward the church and its importance in the community; attitudes toward working conditions; labor agitation; attitudes toward "progress" and the government, changes in the kinds of things people buy; and who or what is most important in influencing these changes.

Alfredo Nicefore[1/] made a study in which he tried to compare two regions in Italy, one "poor" and one "wealthy". He considered more than consumption and material well-being. For the various indices used he assigned an index number of 100 to each in the poor region. In comparison, the following computed numbers resulted for the wealthy region (See Table 38).

Greater industrial development meant greater wealth, more literates, and more periodicals to be read, less dependence on agriculture and lower mortality. But also to be noted in the wealthier region was the larger number of divorces, swindles, athiests, and illegitimate births. Changes of this sort should be noted as our present rather ambitious schemes to promote economic progress in large areas of the world are evaluated.

[1/] Niceforo, Alfredo. Les Indices Numeriques de la Civilization et du Progres. Paris, E. Flammarion. 1921.

Table 38

Comparative indices of a "wealthy" and a "poor" region in Italy, 1921. (Poor region = 100)

	"Wealthy" region index
Urbanism	241
Industry	252
Wealth	337
Consumption of tobacco	318
Literates	173
Periodicals	307
Diffusion of political ideas	277
Declaration of athesism or refusal to declare a religion	176
Illegitimate births	278
Divorces	498
Swindles	223
Agriculture	43
Births	68
Excess of births over deaths	52
Mortality	77
So-called criminality	80
Homocides	42

The few examples of physical change and social disorganization which we shall present in the following sections were selected to illustrate the necessity of considering the cultural pattern into which modern production methods are to be introduced.

> Economic development, just any kind of economic development, is not the secret key to human betterment. The past is filled with examples of how mere economic growth has not failed to help people improve their lot but has made their conditions immeasurably worse.[2/]

[2/] Isaacs, Harold R. Two-Thirds of the World. Public Affairs Institute. Bold New Program Series. No. 2. p.50.

Conditions may be made "immeasurably worse" in the sense that economic progress may fail to improve physical well-being and/or because in the process of making economic progress traditional social organization and control and certain elements in the level of living may have to be sacrificed; also other undesirable elements may come in. All changes in social organization do not necessarily have to have unfortunate results. Some changes are indeed necessary if a program of economic development is to be made possible. However, the methods of bringing about change and the rate at which changes are made are of extreme importance. This is discussed further in the next section.

The examples to follow are extreme illustrations and are not meant to imply that the results in the selected cases would be repeated in other situations. They are accounts of changes that occurred in the lives of certain primitive peoples upon whom various kinds of economic development were forced from the outside. The relevance of these examples to currently proposed projects in backward areas is that they do illustrate to an extreme degree the fact that outcomes of economic development may not always be what even well-meaning individuals propose. Furthermore, at this time the West must cope not only with problems of different cultural values but also with resentments and bitterness which have arisen from previous failures.

1. Undesirable physical change

We shall discuss, as examples, two sources of physical change of an undesirable nature: (1) the introduction of new diseases to which people formerly had been immune; (2) a worsening of the nutritive value of the diet.

1. Contact of certain primitive peoples with Western civilization has in some cases reduced their physical health and well-being. Particularly groups isolated from the outside world have tended to build up an immunity to diseases peculiar to their habitat. Then when such groups have come in contact with the white man they often have contracted his diseases as well as other things he has had to offer. The carrying of diseases, for example, tuberculosis and the venereal diseases, to people formerly free from such diseases is one aspect of physical degeneration which may follow contacts with Western culture. The introduction of new diseases, however, is more likely to be a problem when peoples first come in contact with the West. Actually such peoples are relatively few in number now. Most economically backward areas have had sufficient contact with the Western world to have most diseases previously peculiar to the West.

Most diseases which plague backward areas, especially in the warmer climates, are the communicable and filth-borne diseases. They are a source of misery to millions of people, but are of a kind for which cures are known and can be quite

easily applied. In this particular area of need modern medical and public health methods could eventually reduce morbidity.

One of the greatest contributions which Western science can make to the backward areas is the alleviation of misery caused by the above diseases. On the other hand, along with a decrease in some diseases, certain changes brought about under Western development programs could lead to a greater incidence of other kinds of diseases with which the Western world itself is troubled. The latter are mental and nervous conditions which often have accompanied industrialization and urbanization when the tempo of life was increased. Such disabilities present greater difficulties of treatment and may contribute to social problems, too.

2. The introduction of modern methods of production often is accompanied by a change in food consumption. With the greater specialization and division of labor associated with a more productive economy foods formerly raised, hunted or otherwise directly produced may be replaced by foods purchased with money. Although the monetary value of goods consumed per capita may be greater the pattern of consumption may become so distorted or its quality (in diet, e.g.) actually decrease so that even material well-being may not have improved at all. For example, in South Africa the decline of native agriculture, plus the influence of European foods have made

for a diet quite inferior to the old native diet.

> The native diet, although simple and monotonous according to European standards, supplied all the essential food elements necessary to the maintenance of healthy conditions.3/

The deterioration of diets is accounted for, in part, by "the fact that contact with European civilization has given natives a liking for European foods, mostly of the starchy nature, white sifted meal and flour, white maize meal, sugar and sweets (candy)."

An interesting study4/ on the relation of nutrition and physical degeneration, particularly as evidenced by facial and dental arch deformities, was made by Dr. Weston A. Price.* Dr. Price made his investigations among various primitive peoples all over the world. Studies were made among the following:

> Certain isolated groups of Swiss in Switzerland
> The Gaelics in the Outer and Inner Hebrides
> The Eskimos in Alaska
> The Indians in the far North, West and Central Canada, Western U.S., and Florida
> The Melanesians and Polynesians on eight archipelagos of the Southern Pacific

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3/Timely, J. M. The Complex Farm-Labor Problem of South Africa. Rural Sociology. 6:126-137. 1941.

4/Price, Weston A. Nutrition and Physical Degeneration. A Comparison of Primitive and Modern Diets and their Effects. New York, Paul B. Hoeber. 1939.

*Dr. Price is a member of the research commission of the American Dental Association and a member of the American Association of Physical Anthropologists. In the introduction to Dr. Price's book, to which we refer, Professor Hooton of Harvard gave high praise to Dr. Price's study among primitive peoples.

Native tribes in Eastern and Central Africa
The Aborigines of Australia
Malay tribes on islands north of Australia
The Maori of New Zealand
The ancient Peruvian civilizations (based on archeological findings of human skeltons) and their decendants in Peru both along the coast, and the Sierras, also in the Amazon Basin.

Two groups were chosen from each of the above racial stocks: one group included individuals who were isolated from contact with modern Western culture; the other group chosen for comparative study had had such contact. In neither group had the individuals inter-married with another race. The only difference was that the first group had remained sufficiently isolated that their manner of living had remained untouched, while the second group had adopted some things (food, e.g.) from Western culture.

Findings were similar among all peoples studied by Dr. Price. Facial bones and dental arches were well formed in individuals in the isolated groups. In appearance "adult individuals showed a constant reproduction of the tribal pattern", so close, in fact that two individuals who were unrelated might be taken for siblings. There was almost complete immunity to dental caries. The birth process took place with relative ease and efficiency.

On the other hand, wide-spread tooth decay, deformed dental arches, crowded teeth, narrow nostrils and often a narrowing and lengthening of the head, and distorted countenances tended to characterize individuals of primitive racial stocks

who no longer were living in isolation and in the old manner. To disprove any suggestion that the above changes were hereditary, Dr. Price presented evidence that parents of the same racial stock who were physically well-developed themselves would produce children with certain deformities after primitive diets had been abandoned.

> The blight of the white man's commerce is seen everywhere in the distorted countenances of even the first generation after the adoption by parents of the foods of modern commerce.[5/]

Diets of all the isolated peoples which Dr. Price studied usually were simple but nutritious and well-balanced. In many cases special foods were provided for special needs of pregnancy, lactation, and others. When the old diet was replaced with more highly refined commercial foods the quality of the diet was greatly reduced.

Although the findings of Dr. Price were consistently similar for all the peoples he studied, and although there are other studies which support his conclusions, we should not imply that all primitive peoples always have adequate diets. For example, in a survey of the diets and health of two African tribes[6/] (the Masai and Akikuyu) Orr and Gilks found considerable difference between the two tribes in both diet and physique.

The diet of the Akikuyu, consisting largely of cereals,

[5/] Price, W. A. op. cit., p.63-64.

[6/] Orr, J. B. and Gilks, J. L. The Physique and Health of Two African Tribes. London, Medical Research Council. 1931.

roots, and fruits, was associated with a higher incidence, than among the Masai, of "bone deformities, dental caries and anemia, pulmonary conditions and tropical ulcer. Furthermore, the full-grown Masai male, whose diet in the main consisted of raw blood, milk and meat averaged five inches tall and 23 pounds heavier than the full-grown Kikuyu, and his muscular strength, as determined by the dynamometer, . . . 50 pounds greater."[7/]

It should be further noted about Dr.Price's study that the dietary patterns which replaced the old primitive diets would not meet modern standards of nutritional adequacy. The changes he observed are important, however, and deserve consideration in an evaluation of changes brought about under Western development programs. When people switch from a primitive diet they often adopt, from economic necessity or preference, more highly refined and less nutritious foods. It has been observed that,

> In most backward countries the problem of under-nutrition is probably more immediate than mal-nutrition, though both are present, especially in areas whose contacts with Western culture have encouraged the production of a single money crop. . . What may appear economically progressive in terms of increased output per man hour in raising a single crop may be detrimental to nutritional well-being. The native or peasant may have increased his money income only at the sacrifice of good nutrition. A varied diet provided by the family garden, wild fruits and animal foods, has in many instances been superior to the white man's highly refined

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7/ Ibid., p.62.

foods which the native may purchase in exchange for money. [8]

2. Social disorganization

There are various ways in which social disorganization has expressed itself among peoples whose old way of life has been upset by the introduction of production methods, ideas and goods from Western culture. The introduction of industrial methods has not always been accompanied by an improvement in the physical well-being of the native peoples. Furthermore, in some cases there has been a degeneration of formerly accepted moral standards and other social controls, as when ". . . the conquest for power and profit (has) destroyed the older social balances . . . and never replaced them with anything else designed to meet the people's needs."[9]

Africa provides some of the best examples of the more undesirable results which, under certain conditions, have accompanied Western domination. With the construction of railroads and the development of mining, commercial agriculture and manufacturing industries in South Africa, the natives have contributed larger and larger numbers to the labor supply.[10] Though they make up the largest part of the

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[8] Learned, E. J., Op. cit., 63-64.

[9] Isaacs, op. cit., p.25.

[10] Timely, J. M. The Complex Farm-Labor Problem of South Africa. Rural Sociology. 6:126-137. 1941.

population, the natives remain a subject people. The old way of life has gradually disintegrated with little of a positive nature to replace old values that have been lost. They are allowed a part of the Western pattern, a part which does not fit with what is left of the native pattern. The story of one old man, a native South African, and the tragedy of his son when the latter grew up and moved to the city is related in fiction by Alan Paton in his emotionally moving novel, Cry the Beloved Country. Here Paton describes, through a few characters in a story, problems arising out of native contact with Western culture. The quotation given below summarizes more precisely some of the outcomes. Note the evidences of degeneration of formerly accepted moral standards and responsibilities.

> The annual mass migration of native males, married and unmarried, from native territories has unbalanced family and sexual life, especially as unmarried Natives often settle more or less permanently in urban areas. As a result, there has been a growing tendency for native women to move to cities, where many of them become prostitutes or live with native men without having contracted a marriage according to tribal custom or European law. Such unions are often not regarded by either party as binding, nor is there the regard for and care of children as is usual in native family life. Immorality, social diseases, abandonment of children and lawlessness all of which were practically non-existent under primitive conditions, have become increasingly grave problems.[11]

This example from South Africa illustrates an extreme, though not a rare, case of certain difficulties and problems

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[11] Ibid., p.133.

which may arise when a foreign culture is forced on a native people. True, the welfare of the natives was not always considered. But in other instances even well-intentioned welfare programs for native workers have not been very successful. This has been the experience of some United States businessmen in backward areas, who, at times, have been baffled at native reaction to increased money incomes and/or large numbers of company provided goods and services. Dr. Hoyt's study[12/] of levels of living among workers employed on a United Fruit Company plantation in Guatemala is a good example of the latter. Here, as in other instances, additional purchasing power has not lead to an improved quality in consumption. Relatively high money incomes have found outlets which have not improved the material well-being of the workers generally. The market has been limited as to variety of goods which would encourage an expansion of wants and the level of consumption. Many of the goods which have been offered have not been of a kind which would improve levels of living. There has been a breakdown of formerly accepted moral standards and social responsibilities. There is bitterness and discontent among the workers.

3. Significance to development programs of problems of change

The examples of physical change and social disorganization

12/Hoyt, E. E. Report to the United Fruit Co. on Socio-Economic Conditions at Tiquisate, Guatemala. Ames, Iowa. Unpublished M.S. 1950.

are only a few of hundreds of cases which might have been presented. Cases like those discussed above illustrate changes that took place when "primitive" peoples came in contact with Western culture. In the world today there are very few people who continue to live in isolation. The large numbers who live in underdeveloped areas and who are to be the recipients of aid for the purpose of increasing their rate of economic development can be considered neither primitive (except in their economic development) nor isolated from contact with the Western World.

Although few peoples now live in isolation from the West the significance of the above examples to the success of development projects in underdeveloped countries is very real. The success of backward countries in raising real incomes while still preserving the fundamental values which give their lives meaning and purpose depend in no small way upon the wisdom with which the Western World approaches certain problems associated with economic development in those backward countries. Also dependent on such achievement is the success of a country like the United States in realizing its foreign policy aims, including the maintenance of peace.

The problems are essentially of two kinds. The first of these is the problem of adapting to a different cultural setting techniques that have been developed in Western industrialized nations. Proposed technical assistance programs as

a problem of culture contact have been discussed in some detail above. Abstraction of economic activity and failure to understand the values and way of life in another culture could make the difference between a plan for economic development which is successful and one which is not. Anthropologists, in particular, believe this to be one of the most important considerations to be made when the United States or other agency or group embarks on a "bold new program" in the economically backward areas.

The second problem, though related to the first, is different. In some underdeveloped countries when technical assistance is forthcoming, resistance may arise, not so much because of a failure to adapt the new toan old and different cultural setting but because of fears, suspicion and distrust which have grown over many years of exploitation.

The economic development which, in the past, was promoted through imperialistic methods often ignored cultural values of the peoples upon whom Western ways were imposed. In some countries the peoples' experiences from earlier contacts with the West have made for many problems and much bitterness, problems and a bitterness which must be dealt with as technical assistance is extended to those areas. Writing about the problems which have arisen out of imperialism and exploitation, Isaacs observed:

> . . . examples can be multipled all over the backward world. In all t heir great variety, the underlying pattern is the same, whether it be in over-populated Egypt or under-populated Iraq or Burma. This has been the more or less "normal" mode of economic expansion, whether it involved the grafting of new forms on older forms of exploitation, or the ruthless displacement of older systems. The sole purpose was the exploitation of resources and labor for the extraction of wealth, not for the welfare of the people. This in its totality, has produced the chaotic and tortured and explosive result which faces us now. 13/

Unless the Western World, and particularly the United States, is able to cope with the "chaotic and tortured and explosive result" it will be unable to achieve what probably is a genuine humanitarian desire to improve the lot of the depressed millions who live in poverty. Neither will it meet with success in another of its aims, viz., to thwart the spread of communism in the backward countries.

> The Russian-totalitarian pattern for coherence and transformation has . . . a peculiar relevance for backward countries. It provides a method for building the foundations of industrialism by yoking the people to an all-powerful police state. 14/

Communist propogandists might effectively exploit the "chaotic and explosive" if the democracies cannot preserve some of the other values of life which are important in different cultures while extending the benefits of increased productivity. In fact, the Communistists are already doing so in some places.

13/ Isaacs, Harold R. op cit, p.52.

14/ Ibid., p.46.

> Men are ready to listen to anyone who speaks to them with conviction about a more satisfactory world. Labor organization under the circumstances may be wholesome in its net effects if its chief result is to restore to workers a lost sense of the meaningfulness of their lives. But it may go beyond that with false accusations and false promises. Revolutionary agitators, if they are about, and they usually are, find soil fertile for their efforts.[15/]

In many of the underdeveloped areas there is a growing national consciousness which could be used to exploit the bitterness toward early Western imperialism and unite its people on a basis of hatred. Such means of uniting would defeat even well-meaning attempts to improve material well-being through technical assistance programs. That is, nationalistic movements could serve as an effective device for resistance, if not to technical skills certainly to democratic ideals which the United States hopes will accompany improvements in agricultural and industrial production in backward areas.

On the other hand, nationalistic movements could aid in the transition away from old values which are incompatible with the adoption of new techniques and economic progress.

> The peoples of underdeveloped areas are on the march toward independence and a revival of customs and practices that both symbolize that independence and at the same time give meaning and dignity to their lives. . . . The vitality and force of these movements indicate the need

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15/ Hoyt, E. E. New Worlds to Conquer: The Socio-Cultural Problem of Point IV. Ames, Iowa, Unpublished Mss. 1950. p.6.

> of assisting the underdeveloped people to achieve healthy material bases for their societies without destroying the cultural values of the people.[16/]

From the numerous studies and observations of social scientists some general principles concerning culture contact and change have evolved, principles whose serious consideration would contribute to our better understanding of underdeveloped countries and to our success in extending technical knowledge and financial assistance. Some of the more general principles will be presented in the following chapter.

Chapter 8
Principles Relating to Change and Their Application to Crete

Whatever name they go by, Point Four or some other, there are and will continue to be extensive international programs whose purpose is to improve material well-being in the so-called backward areas. Intra-nationally, as well as internationally, there has developed gradually an increasingly great emphasis on the desirability of improving the well-being of the lower income groups. The growing complexity of society and interdependence of all people has undoubtedly contributed to our concern for a large but long neglected mass of individuals whose life is meaner and less secure than seems necessary under modern methods of production and distribution.

16/ Park, Willard. The Adjustment of Industry. Public Affairs Institute. Bold New Program Series. No. 6. p.52.

Changes which accompany development programs, particularly for some people in some areas, will not be without pain. There will be the problems of transition, as northern European countries and the United States also had during the period of their industrialization. However, through experiences of the past plus what knowledge has been accumulated, particularly in the social sciences, perhaps the pain can be minimized; i.e., if the proper preventive medicine is administered, perhaps its bitterness may be sweetened a bit with the syrup of patience and understanding.

1. Principles relating to change

Out of our earlier discussion grows the following summarization:

1. The contribution of technical assistance is not enough. People of the United States and other industrializatized nations possess considerable know-how for increasing productivity in many of the underdeveloped countries. However, if they adopt a broad concept of welfare which takes account of different cultural values they will rely not only on engineers. They will pay some heed to individuals, aware of the broader aspects of the problem, who emphasize the possible non-monetary "costs" of revamping another economy in reminding us that "man does not live by bread alone", or writing vehemently about a "bugbear of literacy".[1/] Such warning

[1/] Coomaraswamy, A. Bugbear of Literacy. Asia. 44:52-57. 1944.

notes may seem at first to dampen the fire of our enthusiasm for making what seems to be significant improvements in the way large numbers of people live. But what such critics fear most is that even a well-meaning desire to improve the economic life of a people may so alter their whole pattern of living as to destroy too much of what gives life meaning and purpose. This may seem too high a price to pay for an additional ten years life expectancy or a reduced infant mortality rate.

Somewhat related to this is the way an "improvement" is accepted. For example, the introduction of privies may in itself seem a desirable innovation over the use of the open ground. However, in some areas, particularly in warmer climates, encouraging people to construct toilets without emphasizing the need for keeping them clean and in repair has in some cases resulted in more unsanitary conditions than when there were no toilets at all, and at least human excrement was exposed to the air.

2. Often recommendations for changes may be adapted in such a way as to seem familiar or to resemble something already present and accepted in the level of living. ". . . one generalization which emerges from the studies of culture contact and culture change is that on the whole the people of a community tend to respond best to stimuli which have some relation to their traditional values and forms of organization."[2/]

[2/] Firth, Raymond. op. cit., p.110.

3. Balance in the expansion of consumption is even more important than balance in agricultural and industrial development. A favorite, if hackeyed, counsel of some economists is that one should not fail to see the forest because of the trees. This might be paraphrased, do not fail to see the whole pattern of consumption because of a specialized interest in one item. Within the family, the consuming unit, resources are used in acquiring a great variety of "things", tangible and intangible, all of which are interrelated. They are mutually interdependent, to a degree complementary to and substitutable for other items. For example, the maintenance of health, both physical and mental, is dependent not only upon available medical and other health services, but upon the nutritive value of food consumed, housing and its facilities, household equipment, clothing, recreation, education; and intangibles like security, religion, etc.

For areas which are very poor in the world's goods, meeting standards (usually a minimum plus a wide margin of safety) for one item would almost inevitably mean lowering the consumption of something else which should not be further reduced. Also, it is most unlikely that a great deal of improvement in only one item would seem desirable while everything else was allowed to lag. There is something more here, however, than the complementarity and substitutability of goods. Increasing the consumption of certain foods, or the floor area of shelter

or underclothing per person, e.g., might conceivably necessitate changes which would not be considered worth the price. This hearkens back to the scale of preferences. Leisure time or old methods of production which are socially pleasant may not be willingly surrendered, at least not immediately, nor without resistance. The specialist in a particular field must be aware of all the demands on a family's resources, which are always limited. Recommendations for improving one item in the pattern of consumption must be made in light of the whole pattern.

4. Recommended changes must not be implemented too rapidly. A way of life which has come into being over the years has roots too deep to be choked by a seedling planted on the surface. Given time and care, the seedling of new ideas and methods may take root and find its place among the old and accepted. The experiences of the Near East Foundation in Greece led to a firm conviction that this principle concerning rate of change was important.

> There is the realistic recognition that progress for a disadvantaged people usually comes slowly, often most imperceptibly, and that it is the sum of modest and continuing gains, a little here, and a little there.[3/]

[3/] Allen, H. B. Come Over Into Macedonia. New Brunswick, Rutgers University Press. 1943. From the introduction by Albert A. Mann.

2. Applications of general principles to Crete

Though Cretans are not "primitives" and have in no sense lived in complete isolation from modern Western ways, changes must be conceived with the Cretan pattern of living always in mind. The fact that the people have had some contact with the West does not negate the importance of this.

We shall present in this section some applications to Crete of the general principles discussed.

1. The first principle cited above emphasized the importance of considering cultural values in planning and implementing development projects. We shall use education as the example of the application of this principle to Crete.

After studying the educational system together with size of incomes in Crete, one might tend to recommend education in practical techniques as an obvious way of doing away with specific problems; and, of course, a certain amount of training in techniques is to be recommended strongly. No doubt there is much that could be accomplished by teaching technical skills and practical information through educational campaigns, demonstrations, etc., especially at the adult level. For example, more sanitary methods of waste disposal could be provided with relatively little cash expenditure. Practical nutrition lessons could suggest the use of inexpensive nutritious food, nutrient-conserving methods of food preparation and preservation. On the production side the experiences

of the Near East Foundation[4/] comes to mind in their demonstrations of more efficient methods of crop production, livestock breeding, etc.

A great deal of emphasis is placed on the classics in the Greek school curriculum. This generalization holds even for the elementary schools, which include Greek language, geography and history of Greece, and religious history in each of the six elementary grades. Arithmetic, drawing, writing and handicrafts are taught also in each of these elementary grades. In addition geometry, physics, chemistry, botany and zoology are taught in the fifth and sixth grades. Gymnastics are required in all grades. Even greater emphasis is placed on the classics in the gymnasiums.

The absence of practical techniques in the curriculum is obvious and no doubt the inclusion of some courses dealing with practical solutions to specific problems would be most desirable. Major reliance on immediate problems would represent a very short run point of view, however. Training in techniques to increase the Cretan's productivity would be likely to lead to an increased purchasing power, but education which stops here falls far short of its obligation. If the outcome in Crete is to be something more admirable than the outcome in some countries which have experienced increases in material goods consumed, the sights of an educational

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[4/] Ibid. See also by the same author, H. B. Allen, Annual Report of the Educational Director. New York, Near East Foundation. October, 1948.

program must be lifted higher than immediate "practical" problems only.

There are at least two reasons for this point of view. First, the value of Cretan life cannot be assessed entirely on the basis of its productivity. That measurable quantities of goods produced and existing quantities of school equipment and personnel were used as yardsticks of the adequacy of the Cretan educational system was rather implied from our presentation of Survey data in Chapters 3 and 4 of Part II. This kind of measure is rather to be expected when quantitative data alone are relied upon in making an evaluation. However, besides recognizing the need for raising incomes, one must also take account of the long tradition and pride in Greek contributions to the classics. The intense interest in politics and current affairs, the Cretan pride and democratic spirit, the unity of the people in time of national emergency: these may be values which also deserve consideration along with yields per acre and number of desks per school, per teacher, etc., though the latter may serve a useful means of achieving certain ends.

The other reason comes from a longer run point of view. If Cretans succeed in increasing output and thereby their purchasing power, how will the extra purchasing power express itself in the market? The more rapidly the increase comes the greater the problem will be. Increased wealth has not always

brought the improvement in welfare that it might have brought. Here, too, is a problem which is "practical" enough but one for which vocational education techniques are an unsatisfactory solution. It does not necessarily follow that a greater quantitative consumption will in itself promote the improvements which recommendations arising out of the Crete Survey were designed to promote.

Care must be taken that more than lip service be given to the avowed principle that it is not the scientific techniques and methods which are to be the primary concern, but the well-being that such means can provide for a people.

2. Recommended changes will be likely to be more acceptable if they possess a similarity or relation to something already present and accepted in the pattern of living, or if the agency of their proposed introduction is one with which the people already have a long established sympathy. For example, it is conceivable that the very popular interest in politics and its discussion at the coffee house could be used to achieve some desired end. If most men frequent the coffee house, perhaps it would not be too difficult gradually to extend their interest in local politics to a pride and interest in community improvements: water supply, sewage disposal, schools, maintenance and repair of streets and roads.

When there are radios in the coffee houses these might be used for airing short, interesting programs giving practical

suggestions and ideas for making improvements in home and community, suggestions that could be applied by groups or individuals with a minimum of money expenditure.

The renowned patriotism of the Cretan and his pride in military strength might well be channeled along lines of improvement in his community and even a broader area. A larger annual output would not lead to higher levels of well-being if all or most of the increased production were diverted to military rather than investment or consumer expenditures. The Cretan spirit and pride might serve a better purpose if directed toward improvements of community facilities.

The patriotism of the Cretan extends to his church. Part of being a Greek is being a member of the Greek Orthodox Church. The clergy, while not often well educated, exert an important influence in their parishes. Institutions which have a long existence and acceptance by the Cretan, the church and the coffee house, for example, could dispense information and initiate projects which would be far more acceptable and more likely of being carried out than something of a similar nature which was introduced by a new and unfamiliar organization.

Recommendations, whenever possible, should be worked in with changes already taking place. For example, what is the direction of certain changes and who among the natives have influence because they are respected and willingly followed? New methods and ideas adopted first by those individuals

would be more readily accepted by the others. In the early days of the U. S. extension service, if new ideas and methods could be made acceptable to one of the more influential farmers, his neighbors would be more likely to adopt the new methods, too. And, of course, advertisers exploit the technique in their wide-spread use of the testimonial by famous, distinguished, or respected people.

3. It goes without saying that suggested changes should be within the realm of possibility, economically. One purpose of the Crete Survey was to determine just what such possibilities might be.

There is another reason for relying as much as possible on self-help projects. Though progress might come more slowly, there might also be a better balance in the improvement of various items in the family consumption pattern than if only one or two were selected by specialists with the idea of working out very ambitious plans. We noted above that great improvement of one or two items while others were allowed to lag, usually was not acceptable nor desirable.

4. Desired changes should be introduced slowly. When the difference between present conditions and the proposed goal is very great, patience and understanding may not be easy. Among people where change is not sought for its own sake, where there are many who cannot read and where old customs have deep roots, rapid changes will be strongly resisted

or not permanently accepted.

Furthermore, all conceivable effects of introducing something new must be considered. Often a new thing which seems desirable necessitates the loss of something else which may be desirable also. This may be true when the new thing, like a pump in one's own yard, e.g., would necessitate the loss of long-established social customs associated with going to the central source of supply to fetch water. In many countries where women gather at the source of water supply or community washing place, there is much visiting, exchange of gossip, etc. Such is the case in Crete. What, with improved water supplies, could take the place of this social gathering (in a way, a form of recreation) for the women?

IV. CRITIQUE

Chapter 9
Critique of the Levels of Living Portion of the Crete Survey and the Need of Testing Recommendations

In presenting this critique of the Crete Survey we shall approach the problem along the following lines. Since the level of living portion of the Survey was entirely a sample survey, it is subject to all valid criticisms of sample surveys in general. Accordingly we shall roughly divide the critique into two parts. First we shall examine the sample survey as a method, noting certain limitations and considering its possibilities. In the second we shall view the Crete Survey from the point of view of how well it meets these possibilities.

1. The sample survey as a method of investigation

It is characteristic of a sample survey that the information is given as inductive inferences concerning a population on the basis of a sample drawn from the population*. It is the responsibility of the statistician to insure that the inferences are valid and to provide measures of the accuracy of the information obtained. For present purposes it is

*Population for statistical purposes may be defined as an aggregate of individual persons, objects or items.

presumed that this responsibility can be met.

In a sample survey of the type of the Crete Survey the population which is actually sample is the population of responses to questions. For example, take the question, "What is the distance from this household to the doctor?" In this case the statistical population of the distances of households from a doctor on the Island of Crete at a given time can be reasonably well defined. The population of responses would be much more economical to collect and could be expected to be similar enough to the population of actual distances to be acceptable. In particular cases, however, the inaccuracy of reports may be quite a serious limitation. Given surveys should be scrutinized with the possibility of this limitation in mind. Appropriate questionnaire design, however, can minimize the errors introduced and cost considerations ordinarily will amply justify the decision to rely on responses to questions.

As to the kinds of information that may be obtained, surveys can cope with populations that can be characterized by numerical magnitudes and also those populations which can be characterized by well-defined attributes. For example, the question, "Do you own or rent this house?" is more clearly definable than the question, "Are you satisfied with your housing accomodation?" In the latter sample, what one means by "satisfied" obviously is not defined.

The necessity of dealing with numerical magnitudes or well

defined attributes may appear to be a natural limitation to the kind of situations for which the sample survey method may be of use. It should be pointed out, however, that this is not necessarily a limitation inherent in the method but rather one which may appear accordingly as the investigator is or is not able to devise "measures" for the pertinent information desired. This consideration has an important application to the study of levels of living. Quantities of goods consumed, e.g., are quite easily measurable, but certain other aspects of the level of living have not been so well defined. More investigation is needed to enable us to say what is really pertinent in a study of the total level of living. We need to know with more exactness what information is desired so that precise questions can be formulated. In this matter the role of the expert is very important.

A sample survey is only a tool, a method or device, which the expert may employ to acquire information. The specialist in a particular field of inquiry has important roles to play before, during, and after, the employment of this "tool", the sample survey.

In making a level of living study, such as the one incorporated in the Crete Survey, certain preliminary investigations are desirable before schedules are drawn up and even before the sampling plan is designed. An individual who is familiar with the nature of a level of living and with other level of living studies would, ideally, make "on the spot"

observations in the area to be surveyed. A well trained person, through observation and conversations with various individuals in the area of the proposed study, could pick up much information of a general nature concerning the cultural pattern in which the study is to be made. Observation would, of course, be supplemented by reading what published information of a descriptive or statistical nature is available.

With such background information on the cultural setting, the levels of living expert would then be able to think through, and come to some decision on, the following question: with the financial resources which are available, what information will most adequately and completely provide a picture of the level of living at the particular time and place to be investigated? The expense of collecting information by the survey method necessitates a careful selection of the most important kind of information desired. Usually getting everything that might be of some interest would be too expensive. The decision as to what are the most pertinent data should be made by the expert who has in mind exactly what data would be most informative and how such data will be put to use once they have been assembled. In this role the expert selects the questions to be asked and assists in drawing up the schedules.

The expert should accompany the survey team and be on hand to clear up any difficulties that may arise concerning schedule design and interpretation of questions. Being on

hand offers further opportunity for observation. If earlier preparation for planning the survey was limited to information acquired through reading published material, then on the spot observation during the collection of data becomes even more desirable.

When the time arrives for analysis and interpretation of the data and finally a synthesis to give a complete picture, all the background information, much of which exists in the mind and possible diary notes of the observer, becomes extremely helpful in interpretation. A collection of statistical data, after all, is in itself sterile until one can account for relationships which the data imply. The purpose of a survey is only to provide factual information, and does not relieve the expert of the responsibility for interpreting the data.

2. The Crete survey

In this section we shall discuss the Crete Survey in light of the remarks that have been made concerning sample surveys in general. There will be no over-all attempt to deal with statistical techniques which were employed in the Crete Survey and which the writer is unable to treat adequately. Well qualified people designed the sample and supervised the collection and numerical analysis of the data.

Even if we assume the statistical techniques employed in the Crete Survey to be acceptable it is appropriate to inquire as to the adequacy of the questions asked. As we noted above

what the Crete Survey actually sampled was the statistical population of responses to questions. In the example given above (viz., the distance from household to doctor) one may feel reasonably confident that the information he would get in response to the question asked would give him information about the population in which he was really interested. In spite of certain advantages in acquiring information through responses to questions, there may be quite serious limitations in particular cases. When terms are not well-defined, when the interviewer can bias an interviewee's response, when the person being interviewed cannot or will not give the desired information, or for any nunber of other reasons, the statistical population of responses to questions may not give satisfactory information about the population on whose characteristics one wishes to obtain information. It should be pointed out, however, that in a survey whose scope is as broad as that of the Crete Survey one cannot hope to get as great accuracy as he would be able to get if there were no limitation on financial resources and time, or if the scope of the survey were narrower. Furthermore, in any survey there are questions which for one reason or other, prove inadequate for these reasons. While such a consideration may be regarded as part of the technical statistical problem, it is, nevertheless, one which cannot be ignored in this more general evaluation of the Crete Survey. Many of the questions asked in the household schedule did not appear to present difficulties. Some

did, however. For example, in the estimate of the percentage of cash income spent on food, one may reasonably question some of the answers. That some households reportedly spent 100 per cent of their money incomes on food seems rather unlikely, especially since all families for whom household inventories were taken spent at least something during the previous year for household equipment, furnishings, clothing or a combination of these items. Of course, there must have been other expenditures, too.

Another thing, related to the clothing and household inventory, had to do with the gathering and analysis of data. Some interviewers distinguished between goods on hand which were in use and goods earmarked for a dowry. This distinction was not made in the instructions given to interviewers and so one must question the accuracy of the resulting totals. Also, there were, in some cases, great discrepancies in number of goods on hand and the number acquired during the previous year. Even the explanation that these might have been sold to meet a family emergency is not a satisfactory answer in all cases.

Although such statistical problems are important, chief interest is rather in (1) the adequacy of the information acquired as a measure of the level of living in Crete at a particular time, and (2) the adequacy of information as a basis for recommendations concerning desirable changes in the level of living and methods of change. The "main objective"

of the Crete Survey was "to learn quickly, a country (factually and culturally) in order to devise suggested self-help solutions which fit the social pattern, are economically sound and of long duration."[1/] Noting the objective of the Survey, one may reasonably ask, "To what extent was the objective met?" To learn Crete "factually" probably was accomplished to a large extent; to learn Crete "culturally" was more difficult and probably less successful.

The most fundamental criticisms that occurs to one critically viewing the levels of living portion of the Crete Survey appear to arise from the failure to consult with a levels of living expert.

1. Although the levels of living expert would know in general what information should be sought in a levels of living study, he would need to know something about the particular area in which a survey was to be made even before the sample was designed. As we noted above, it is very desirable, though not always possible, to make an "on the spot" pre-study. If an on the spot study is not feasible, then one must resort to whatever sources of information may be obtained.

There was no pre-study made of factors relevant to Cretan levels of living before the Sample Survey was begun. Had there been such a pre-study we would know more about the qualitative aspects of the Cretan level of living than we were able

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[1/] Allbaugh, L. G., op. cit., p.1.

to glean from Survey data.

2. An expert is important during the selection and formulation of questions and during the collection of data. Had a levels of living expert been consulted there would have been a somewhat different selection of data to be investigated. In the Crete Survey the schedules were hastily drawn up and, for the household schedules, there was no consultation with a levels of living expert and there was no such person on the Survey team.

Most of what the Crete Survey got on its household schedule was quantitative data on consumption. Some additional information of this kind would supplement what we already have and give a more complete picture of Cretan levels of living.

Of major importance is the over-all picture of family expenditures. Information on expenditures other than food would have been useful and would have served as a check on the reported expenditures on food. The housing information could have been more adequate. In the discussion of Cretan housing we noted the desirability of getting some information on area of dry floor space. There was information on number of houses damaged by war and an estimate of the extent of the damage. Another useful approximation would have been the number of houses in need of major repairs. The question which asked the householder if he was satisfied with his present housing accomodations was interesting, in spite of the difficulties of tabulating the reasons he gave for his "yes" or

"no" answer. Information was obtained on number of families having yards, but no tabulation has been made of the use to which yards are put. How important, e.g., are yard gardens?

The Crete Survey collected many "facts", but certain information which is an important part of a levels of living study was lacking. Some of the latter is of a kind which, indirectly, could give one useful information about the qualitative aspects of the level of living. For example, we know practically nothing, from the Survey, about the activities of Cretan women. We assume that they probably work hard and perform a great variety of household duties with few modern conveniences. But what are their most time-consuming and laborious tasks we do not know. Also we should know about their social and recreational activities; what kinds of things they want to have and to do. One of the most interesting things about Table 9 listing business houses per 1000 inhabitants, was the complete absence of any establishment which even suggested that it offered anything in the feminine line.

We should know more about how time is spent. Time is an economic resource as important as money. We know something about the way men use their time, but for all people, men, women, and children, more information on recreation and use of leisure time is very desirable.

Such information as the Survey got on percentage of people who read newspapers, average number of hours spent in the

coffee house and percentage of families who observe fasts is very good. It is this sort of thing which we need more of to better understand the pattern of Cretan life.

3. The expert is important when data are being analyzed and recommendations made. The enumerations of "things" or descriptive facts to which the survey method is particularly appropriate should have been supplemented by information obtained through the use of the trained observer method. Technique, perhaps by a good anthropologist, if not a levels of living expert, who could have selected pertinent facts from the culture that would have been useful in supplementing data obtained from the sampling operation. Good observers who have had training in the social sciences and who are sensitive to the people and environment which they are surveying, pick up much information which gives them an appreciation of the setting from which survey data are being taken. Then when it comes time for analysis of the data and finally a synthesis to give a complete picture, all the background information, much of which exists in the memory and diary notes of the observer, becomes extremely helpful in interpretation.

The purpose of the Crete Survey was not only to describe a situation at a particular time, but, more important, to collect and assemble data for the purpose of devising "self-help" solutions which fit the social pattern. The extreme importance of considering the whole social, or cultural, pattern into which recommended schemes must be fit has been

emphasized throughout Part III of this thesis. Crete Survey data reveal very little that is relevant to such considerations. What scattered information is available cannot be pieced together to make a complete pattern. It is relatively easy to measure material conditions at a particular time and to obtain from such a study an idea of what might be done to improve matters. How to bring about such changes is a far more difficult problem, but one which cannot be ignored if some policy has to be forthcoming. Gordon Bowles[2/] expressed this idea well in a recent article in which he commented as follows:

> It is a relatively simple matter for a survey mission to estimate the physical or material considerations such as evidences of disease and the logical counter measures to be prescribed (mosquito control, innoculations, including hospitals, dispensaries and trained personnel), or to estimate on the basis of the quantity and quality of food what would be necessary to provide a balanced diet. Similarly, detailed plans might be worked out for providing schools and training facilities. The real problem is not so much what needs to be done as how to do it and it is here that the advice and counsel of trained observers is needed.

3. Need of testing the recommendations of the Crete Survey

Before any assistance program is begun in Crete or elsewhere there should be a survey of the culture and its dynamics, present changes and their probable direction; also the economic, social and political organization of the area. This would

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[2/] Bowles, G. T., op. cit., p.146.

be followed by an appraisal of the problems to be dealt with, and recommendations made in light of the culture in which the problems are to be met. Finally at some subsequent period there should be a check of what changes have actually taken place in the pattern of life, and these changes related so far as possible to their causes, so that both deliberate policies and other causes of change may be critically evaluated.[3/]

Capable anthropologists and sociologists should be able to tell us something about current changes and the direction of change. For Crete, this means changes going on now in the immediate present, and not what the ancient Minoans did, except as that has some direct bearing on present conditions. For example, how are ideas changing? Are the people's wants changing? Are they expressing, or would they if given the opportunity, express new demands in the market? Who and/or what agencies are most important in influencing change?

In the Crete Survey the Rockefeller Foundation has the background for a project which, if carried through, could

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3/ One study which achieves this in part is that of the Lynds in Middletown. This "dynamic, functional, study of the contemporary life" of an American community took account of changes which had occurred from about 1890 to 1925 when the first survey was made. The work was largely descriptive and not made for the purpose of evaluating policies or any previously imposed projects. After a decade had passed Middletown was revisited (in 1935) for the purpose of noting changes which had occurred in the meantime and to bring the material of the older study up to date.

Lynd, Robert S. and Lynd, Helen Merrill. Middletown. New York, Harcourt, Brace and Co. 1929.

By the same authors, Middletown in Transition. New York, Harcourt, Brace and Co. 1937.

make significant contributions to the field of international welfare. Devising methods for making over-all surveys, especially of "economically backward" areas, recommendations which follow from such surveys, and an evaluation of such recommendations when implemented over time: these are important areas about which we know too little. They offer challenging possibilities to the private foundation because it is less unwieldy and can move more rapidly than a government into new areas of research.

This Survey gives a picture of conditions in Crete at a particular time before any attempts have been made to undertake long-time development projects. An analysis of the data was made in order that some conclusions could be reached as to what some of Crete's greatest problems are and recommendations for meeting these problems. Suppose some of the recommended schemes are actually adopted. An evaluation of this preliminary work cannot be made until some time has passed. To evaluate the results, follow-up studies should be made after the passage of years: say, after a five-year period, and also after ten and twenty years. Recognition of the possible limitations and accompanying problems (as well as the benefits) of material improvements through a willingness to make evaluations after a period of time would be an indication, on the part of the Rockefeller Foundation, of foresight and an appreciation of the broad problems involved in international welfare programs.

V. SUMMARY

A problem of great interest today is the material well-being of two-thirds of the world's people. These people live in economically backward or underdeveloped areas in the sense that productivity and hence incomes in those countries are lower than necessary under modern methods of production and distribution. A Survey of the Cretan economy conducted by the Rockefeller Foundation was discussed in the thesis as a part of the growing interest in the economically backward areas. Changes in levels of living resulting from technical assistance programs in underdeveloped countries were considered in general and as they applied to Crete in particular.

We defined levels of living to include the material, quantitatively measurable components and also the qualitative aspects of a total pattern of living which do not easily lend themselves to expression as numerical magnitudes.

The subject of the first part of the thesis was the quantitative aspects of the level of living. It is in respect to the components discussed in Part II that various studies and suggested programs for technical and financial assistance to backward areas propose to bring about improvements.

Methods of measuring levels of living were duscussed because some assessment of conditions in a given area must be made before recommendations for assistance can be formulated.

The methods presented were those particularly appropriate to international uses. They included the index method and two kinds of surveys: (1) observation and assessment by a survey team of experts, and (2) the sample survey. The latter was discussed in greater detail than the other methods of study largely because it was employed in the Crete Survey.

The Crete Survey was presented as an example of a sample survey and the levels of living portion of that survey was presented in three sections on levels of living in Crete. The following is a summary of findings.

Levels of Living in Crete

The Cretan family averages, roughly, four persons. Over four-fifths of the families live in rural communities.

Household production contributes an important part to the total income in many Cretan households, especially in the rural villages. Some goods and services are purchased with cash income which the family gets largely from sale of farm products or from the sale of labor. In addition to what the family buys with this, much that the family consumes is produced directly by the family includes: services of the housewife and other family members; spinning, weaving and other crafts; animals slaughtered for home use; food processing, canning, bottling and drying. Further sources of real income are the services from owned homes and such durable goods as

the family have, plus certain community services like roads, schools, health facilities, etc.

Cretans, for the most part, live in whitewashed stone houses with clay or tile roofs. There are approximately three rooms per dwelling, and nine square meters of floor space per person. The small number of rooms does not assure what United States standards would define as adequate privacy, but this is less serious at the moment than the need for repairs arising out of wartime destruction and neglected maintenance repairs.

Bread and olive oil are basic foods and extremely important in the Cretan dietary pattern. The rather small consumption of meat, dairy products and other animal protein foods is important in explaining the most serious deficiencies, viz., animal protein, calcium, riboflavin and vitamin A.

At the time of the Survey in 1948, 86 per cent of males and 60 per cent of the females over 8 years of age, living in cities, reported that they were able to read and write. In the rural areas the percentages were 81 and 58 per cent, respectively.

Though the over-all picture in Crete does not reveal such low levels of living as one finds in the countries which are most backward economically, much could be done to improve the material well-being of the Island families, especially as regards sanitation.

Cretan incomes are low. This fact is indicated by such

factors as the high percentage of income spent on food, the large percentage of working population engaged in agriculture and the small capital investment per farm in this predominately agricultural economy.

The relationship of low incomes to low productivity presents a long-run problem, but along with this is the more immediate problem of adjustment and reconstruction of war and occupation.

The Total Level of Living

In some cultures material goods and services may rank lower on the social scale of preferences than they do in Western culture, though, of course, production and use of material goods have their places in the scheme of things in all cultures. Economic values and activities are only a part of the whole pattern of living, and they are inter-related with other aspects of the pattern. For this reason economic activity, and especially the quantity and type of income produced for consumption, cannot be altered without affecting the whole pattern of which the economic is only one aspect.

Over the years changes occur and slowly are incorporated into the culture pattern. When changes are too rapid, or when they have no relation to what is already accepted and familiar the results may be unfortunate for the people undergoing the change. We have numerous examples of changes which have been

forced on peoples from the outside. There are also examples of attempts by individuals within a country to force western techniques and customs on their own people. In some cases such attempts have been partially successful in increasing productivity. In some cases not even physical well-being has improved and sometimes has actually worsened. Often such changes have been accompanied by a breakdown of old social controls which has led to problems of social disorganization.

These considerations have particular relevance for proposed programs of economic development in backward areas. Changes which such programs would promote, both in methods of production and trade, and in the quantity and type of consumption, would, of necessity, upset the old pattern. For example, if a program of economic development were successful in increasing productivity and, thereby, incomes, an expansion of wants would have to accompany the rising incomes. Not only would wants have to expand sufficiently to absorb increased purchasing power, but the quality of goods and services consumed would have to be of a nature to promote improvement in well-being.

It is relatively easy to find out whether a country's productivity is low and the majority of its people poor and plagued with preventable diseases. Some recommendations that would improve the situation also may be rather obvious. Greater efficiency in production on the one hand, and on the

other hand more education, the use of elementary principles of sanitation, and an increase in hospitals and medical personnel usually follow from studies of economically backward areas. In general, of greater difficulty than deciding what should be done is deciding how it should be done. The methods of bringing about "improvements" so that the latter will be most readily acceptable pose a very difficult problem. For many people the new ideas which are introduced would seem new and strange as compared to the old and familiar and accepted.

In summary, economic development in underdeveloped areas poses problems of culture contact. Techniques developed in countries of western culture will be introduced to peoples living in other cultures whose values may be widely different from those of the West. That is one problem.

Numerous studies of culture change have been made over the years. From these there have evolved some general principles that should be kept in mind during the planning and implementation of programs in the backward areas. These were discussed and applied to Crete as a particular example in Chapter 8, Part III.

Another kind of problem which has arisen in some countries stems from the fact that early activities of Western nations that were imperialistic and which exploited native labor and resources disregarded those principles and as a result have left a legacy of bitterness and hatred toward the West. The growth of nationalism in many of the economically

backward areas could make it possible for leaders in those countries to exploit that bitterness in uniting the people. In some cases they already have done so. Communist agitators, particularly, are quick to make the most of such a situation. That factor is of great importance to the United States. The proposed Point-Four programs to promote economic development in backward areas, are, after all, only a part of United States foreign policy to oppose the spread of communism.

Critique of the Crete Survey

The chief criticism which was made of the levels of living portion of the Crete Survey was that there had been no consultation with a levels of living expert before the study was made nor during the collection of data. Such consultation would have been desirable for the following reasons: (1) there would have been a different selection of questions on quantitative consumption, and (2) through the use both of questions which could have appeared on the schedules and of observations made by the expert, more information would have been obtained on the qualitative aspects of Cretan levels of living. Lack of the latter made recommendations concerning methods of implementing changes in Crete difficult, in some ways impossible.

VI. CONCLUSIONS

On the basis of the ideas discussed and the empirical data presented throughout this thesis, the following conclusions are made.

1. Of the various possible methods which could be used for assessing well-being in economically backward countries the sample survey has certain advantages, the most important of which is that measures of reliability of data can be made. Although one would recommend relying as much as possible on the sample survey method for acquiring data, there is much to be said for supplementing that method with the trained observer technique. The use of good sampling methods only provides one with reliable information and does not eliminate the need for the expert, other than the statistician, in a survey.

2. The use of the expert, or trained observer, is especially important in gathering and assessing information on what we have called the qualitative aspects of the level of living. It is true that the sample survey method is limited in its usefulness for acquiring data of a qualitative nature. Desired information must be such that it can be expressed in numerical quantities. On the other hand, certain kinds of information which it is very desirable to have about a level of living have not been so well defined by levels of living experts themselves that the latter can formulate questions so

as to yield quantitative data which, indirectly, would give them information on the qualitative aspects of levels of living.

We would strongly recommend that some research be undertaken directed toward finding out more precisely what information is particularly relevant to the study of levels of living and then defining, exactly, that information which was found to be relevant.

3. From the Crete Survey data on levels of living we would draw the following conclusion. The Cretans can do much for themselves. Their situation, while poor and in need of some improvements, is not one of the extreme poverty found in other of the world's most backward areas. This is encouraging because the problems are such that their partial solution, at least, is within the realm of possibility over a reasonable period of time. Where outside help may be most desirable is in the financing of some permanent improvements whose cost of maintenance would not be excessive for Cretan purses, particularly in community water supplies and sanitary facilities. Another possibility is the training of native Cretans to show their own people ways of improving the general welfare.

4. Before any assistance program is begun in Crete or elsewhere there should be a survey of the culture and its dynamics, present changes and their probable direction; also the economic, social and political organization of the area. This would be followed by an appraisal of the problems to be dealt

with, and recommendations made in light of the culture in which the problems are to be met. Finally, at some subsequent period there should be a check of what changes have actually taken place in the pattern of life, and these changes related so far as possible to their causes, so that both deliberate policies and other causes of change may be critically evaluated.[1/]

5. In the Crete Survey the Rockefeller Foundation has the background for a project which, if carried through, could make significant contributions to the field of international welfare. Devising methods for making overall surveys, especially of "economically backward" areas, recommendations which follow from such surveys, and an evaluation of such recommendations when implemented over time: these are important matters about which we know too little. They offer challenging possibilities to the private foundation because it is less unwieldy and can move more rapidly than a government into new areas of research.

1/ One study which achieves this in part is that of the Lynds in Middletown. This "dynamic, functional, study of the contemporary life" of an American community took account of changes which had occurred from about 1890 to 1925 when the first survey was made. The work was largely descriptive and not made for the purpose of evaluating policies or any previously imposed projects.

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Crete Survey data give a picture of conditions in Crete at a particular time before formerly recommended attempts have been made to undertake long-time development projects. An analysis of the data was made in order that some conclusions could be reached as to what some of Crete's greatest problems are and recommendations made for meeting these problems. Suppose some of the recommended schemes are actually adopted. The preliminary Survey findings and recommendations based thereon could not be made until some time has passed. To evaluate the results, follow-up studies should be made after the passage of years: say, after a five-year period, and also after ten and twenty years. Recognition of the possible limitations and accompanying problems (as well as the benefits) of material improvements, on the part of the Rockefeller Foundation, through a willingness to make evaluations after a period of time would be an indication of foresight and appreciation of the broad problems involved in international welfare programs.

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